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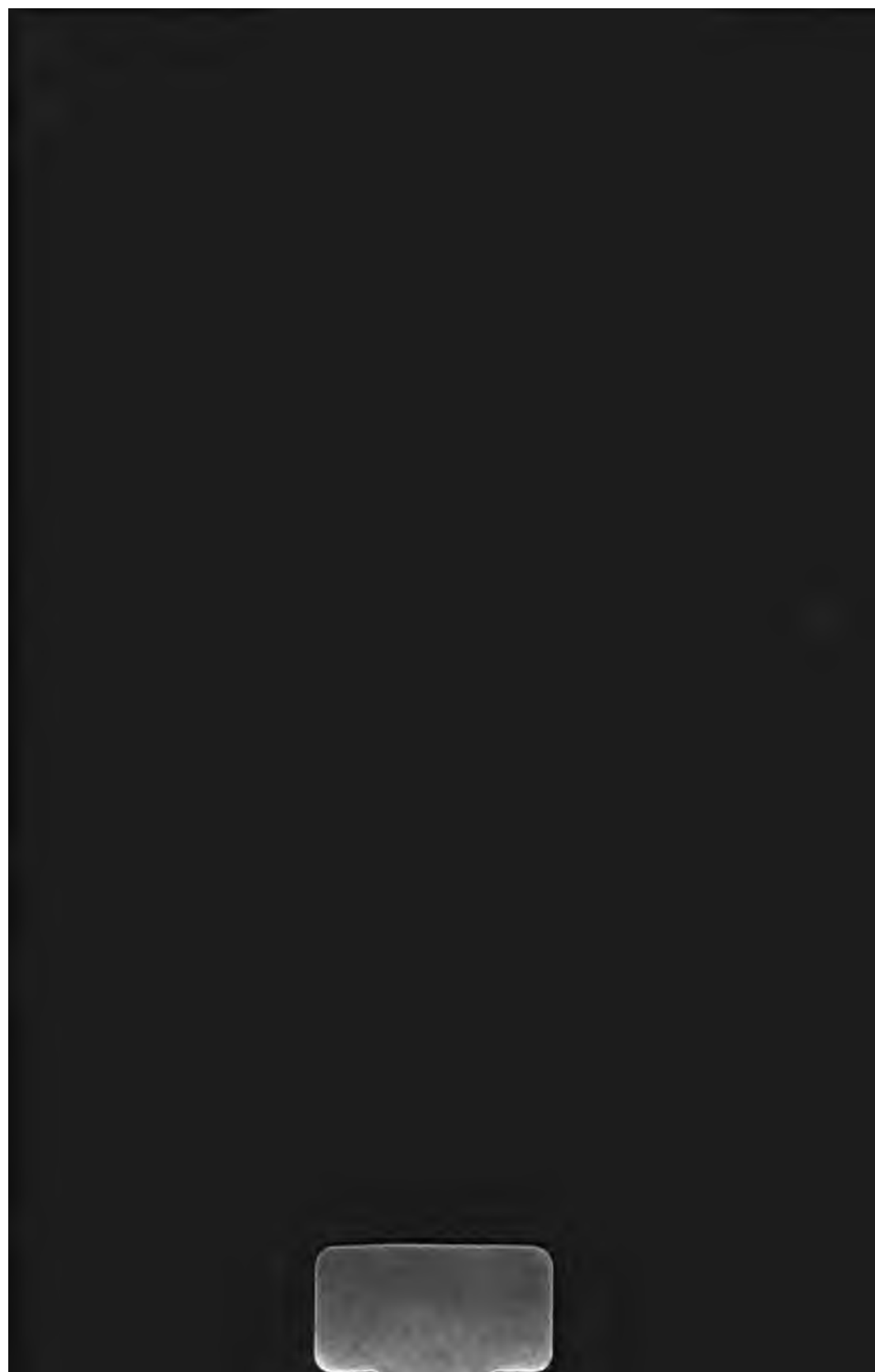
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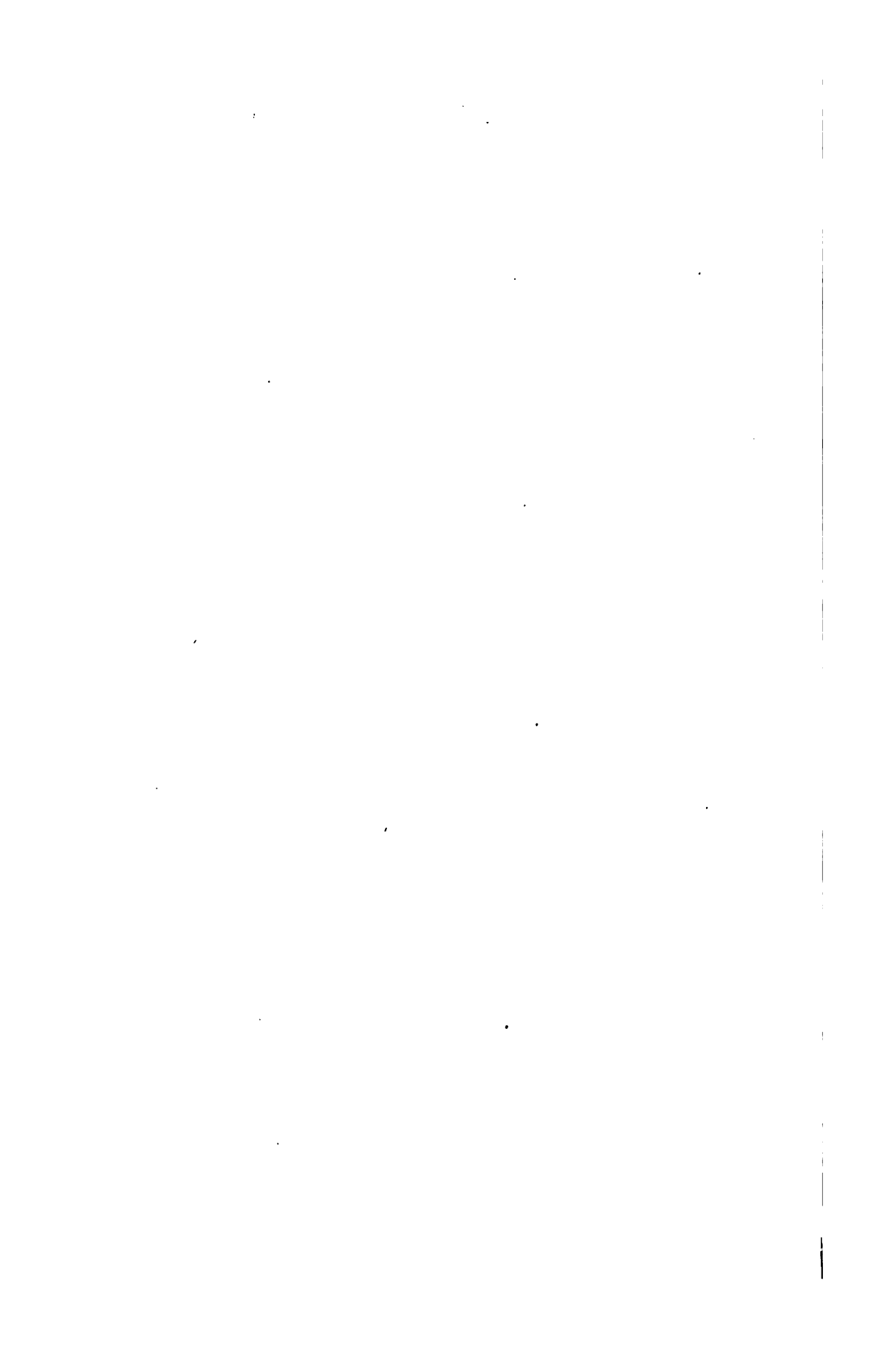
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DISEASES OF THE SKIN.

A

PRACTICAL AND THEORETICAL
TREATISE
ON THE
DISEASES OF THE SKIN.

BY

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TO

JAMES STARTIN, F.R.C.S.,

SENIOR SURGEON TO THE HOSPITAL FOR DISEASES OF THE SKIN,

AS A SLIGHT TRIBUTE

TO HIS EMINENT PROFESSIONAL ATTAINMENTS,

AND IN REMEMBRANCE

OF MANY ACTS OF KINDNESS AS A TEACHER AND A FRIEND,

This Work is gratefully inscribed,

BY THE AUTHOR.

P R E F A C E .

IF any illustration were wanting of the difficulty of correctly classifying diseases of the skin, it would be found in the diversity which has, hitherto, characterised all attempts of the kind. On this subject scarcely two authors are agreed; each has followed his own plan, which, if not more elaborate, is at least at variance with that of any previous writer on the same topic. Of the different systems which have been proposed, there are three which deserve our attention, viz. the artificial, the regional, and the natural. The first, if not actually due to Willan, owes to him its development, and to a certain extent its completion. Before his time skin diseases received but a scanty measure of acknowledgment, either in classification or description. Indeed, the system which he introduced is still followed, both at home and abroad. I confess that I am acquainted with none, which in utility can supply its

place. An objection has been urged against it, that it gives us an idea of a disease from a single point of view; but this is more apparent than real: and the error of Willan, in classing together two such incongruous complaints as scabies and variola, is not likely to be repeated at the present day.

The *regional* system of classification, grounded on a distribution of skin diseases according to their locality, was not likely to find favour when these became better understood. Although commenced by no less an authority than that of Alibert, he was soon obliged to abandon it. Admitting the advantage of the situation of a cutaneous eruption, as assisting us often to arrive at a true diagnosis, its value is not so great that we can always rely upon it; much less can we found a system, which should take it exclusively for a base.

For the third, or *natural* system, which claims for its foundation the anatomy of the skin, we are indebted to Mr. Erasmus Wilson. The several divisions and subdivisions which he has instituted are no doubt in the main correct. At the same time it may be a question, whether this plan is not liable to degenerate into an excess of detail, and lead to distinctions, which, while they scarcely allow of an accurate appre-

ciation, are yet hardly avoided. Another point open to inquiry, and which meets us at the threshold of all classification of skin diseases, is the obscurity which envelopes their pathology; and until this point is satisfactorily cleared, no system of classification can be pronounced complete.

In the present volume, the squamous, papular, vesicular, and pustular affections are comprised in as many groups. Other diseases, as, for example, lupus, elephantiasis, and alopecia, which have their own distinctive characters, are arranged separately. If exception be taken to those which, arising from a vegetable parasite, more properly pertain to a special order, as pityriasis versicolor, tinea tonsdens, and favus, the author may reply, that he has preferred to retain the names by which these complaints are best known: their rearrangement as a class by themselves would be unattended by any practical result.

The author, in conclusion, has to acknowledge his debt of gratitude to many who have aided him in his work. To Mr. Startin his best thanks are due. As his clinical assistant for some years at the Skin Hospital, and on every occasion, when in doubt as to diagnosis or treatment of disease, the author has always received from him the most valuable assistance. The author

also is glad of the present opportunity of expressing, among other obligations, his grateful acknowledgments to Mr. George Pollock, for the care with which he has revised the work while passing through the press; and likewise to Dr. Marcet, for various chemical analyses which he generously undertook.

To the Committee of the Hunterian Museum the author is indebted for permission to have made whatever drawings he required, from their unrivalled collection of microscopical preparations, illustrative of the minute structure of the skin. To Dr. Maddox, Messrs. Tuffen and W. West, and Mr. Aldous have been entrusted the task of preparing the illustrations, the success of which he is content that others should decide.

There are probably few practitioners who do not experience, at the commencement of their career, more or less difficulty in the treatment of cutaneous diseases, which form no inconsiderable share of public or private practice. The limited time at the disposal of a medical student, seldom permits him to pay much attention to this class of complaints, which at a later period he may be called upon to encounter, and the issue of which rests entirely with himself. In many cases they present great difficulty in diagnosis, and the treatment they

receive is often unsatisfactory and uncertain. In thus endeavouring to supply a work which shall serve as a guide to the student, the author has endeavoured to render it as practical as possible, and with the fewest technicalities. No one can be more conscious of its shortcomings or its incompleteness than the author himself, and these deficiencies he trusts to time and further opportunity to rectify.

CONTENTS.

CHAPTER I.

	PAGES
ANATOMY AND PHYSIOLOGY OF THE SKIN	1—21

CHAPTER II.

DISEASES OF THE SQUAMOUS CLASS.

PSORIASIS AND LEPROA	22—43
--------------------------------	-------

CHAPTER III.

SQUAMOUS CLASS (*continued*).

PITYRIASIS AND PITYRIASIS VERSICOLOR	44—55
--	-------

CHAPTER IV.

SQUAMOUS CLASS (*concluded*).

ICHTHYOSIS	56—68
----------------------	-------

CHAPTER V.

DISEASES OF THE PAPULAR CLASS.

LICHEN	69—81
------------------	-------

CHAPTER VI.

PAPULAR CLASS (*continued*).

	PAGES
PRURIGO	82—91

CHAPTER VII.

DISEASES OF THE VESICULAR CLASS.

ECZEMA	92—110
------------------	--------

CHAPTER VIII.

VESICULAR CLASS (*continued*).

HERPES AND HERPES CIRCINNATUS	111—124
---	---------

CHAPTER IX.

VESICULAR CLASS (*concluded*).

POMPHOLIX	125—135
---------------------	---------

CHAPTER X.

DISEASES OF THE PUSTULAR CLASS.

PORRIGO	136—142
-------------------	---------

CHAPTER XI.

PUSTULAR CLASS (*continued*).

IMPETIGO	143—151
--------------------	---------

CHAPTER XII.

PUSTULAR CLASS (*concluded*).

ECHYMA—RUPIA	152—156
------------------------	---------

CHAPTER XIII.

LUPUS	157—174
-----------------	---------

CHAPTER XIV.

ALOPECIA	175—184
--------------------	---------

CONTENTS.

xv

CHAPTER XV.

	PAGES
ACNE	185—192

CHAPTER XVI.

SYCOSIS	193—201
-------------------	---------

CHAPTER XVII.

FAVUS	202—208
-----------------	---------

CHAPTER XVIII.

SCABIES AND PEDICULI	209—229
--------------------------------	---------

CHAPTER XIX.

URTICARIA AND ERYTHEMA	230—240
----------------------------------	---------

CHAPTER XX.

ELEPHANTIASIS	241—255
-------------------------	---------

CHAPTER XXI.

MORBID GROWTHS OF THE SKIN	256—276
--------------------------------------	---------

CHAPTER XXII.

REMARKS ON DISEASES OF THE SKIN FOLLOWING VAC- CINATION	277—284
--	---------

DESCRIPTION OF PLATE I,
ILLUSTRATING THE STRUCTURE OF SKIN (IN PART) AND OF NAIL.

- Fig. 1. Sudoriparous tubes of fœtus of 5½ months, seen with a low power of the microscope.
- Fig. 2. Portion of the same, highly magnified, to show the minute structure. (The specimen is H a, 142, R.C.S.)
- Fig. 3. Sudoriparous duct drawn out by the action of a blister, with nucleated cells of a portion of the skin to which it is attached.
- Fig. 4. Vertical section of papillæ of the skin, showing termination of a nerve and two blood vessels. (Adapted from Kölliker.)
- Fig. 5. Diagram to illustrate the mode of attachment of the nail to the skin, and relation of the parts.
a, nail; b, its bed, elevated into ridges; cc, lateral cutaneous folds.
- Fig. 6. Enlarged view of a portion of the same; similar parts are indicated by corresponding letters. (Preparation H b, 4, R.C.S.)
- Fig. 7. Large nucleated cells, forming the structure of the nail, obtained by boiling in caustic potash.
- Fig. 8. The same, seen edgewise.

Figures 7 and 8 are enlarged 300 diameters.

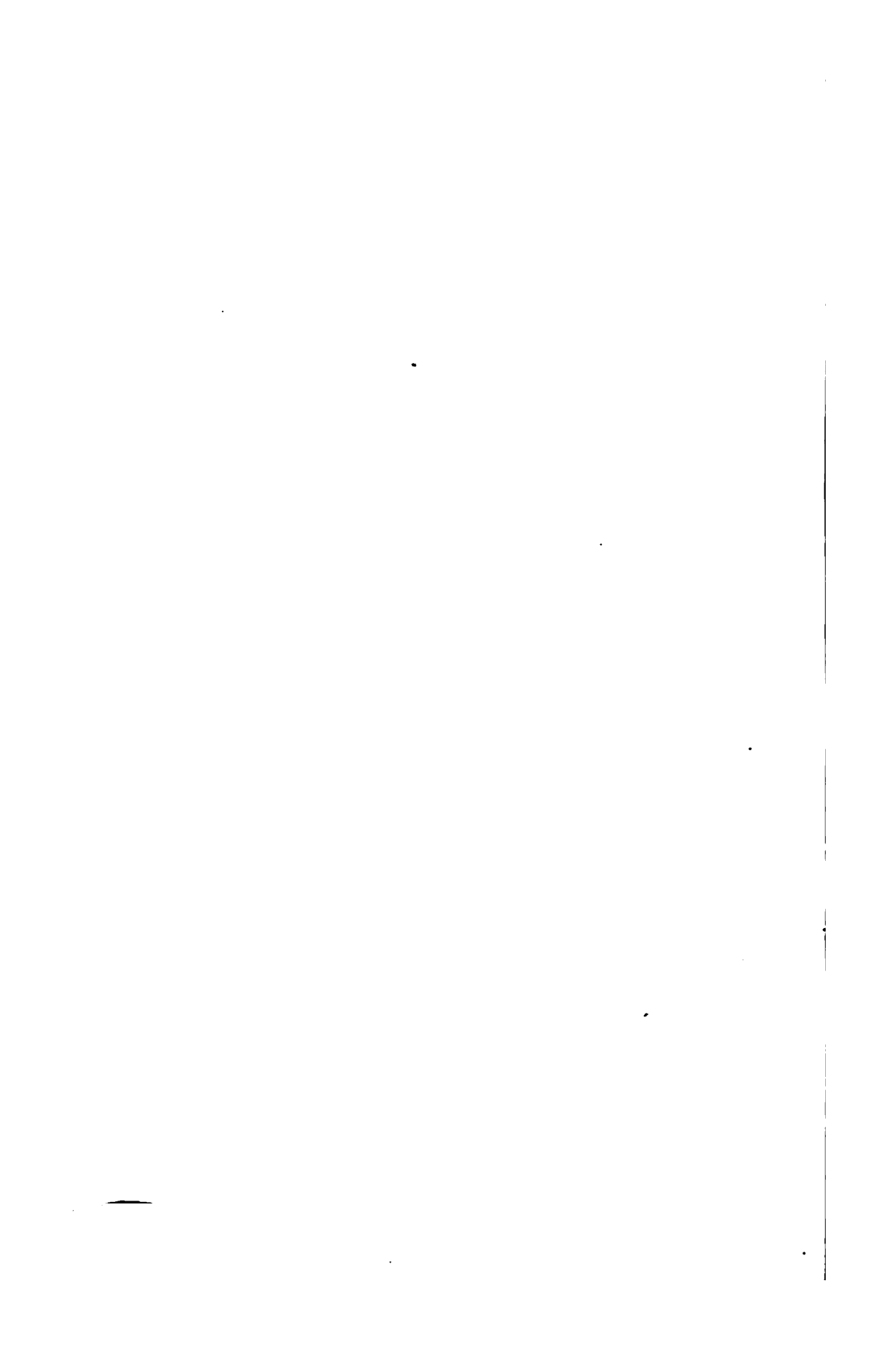
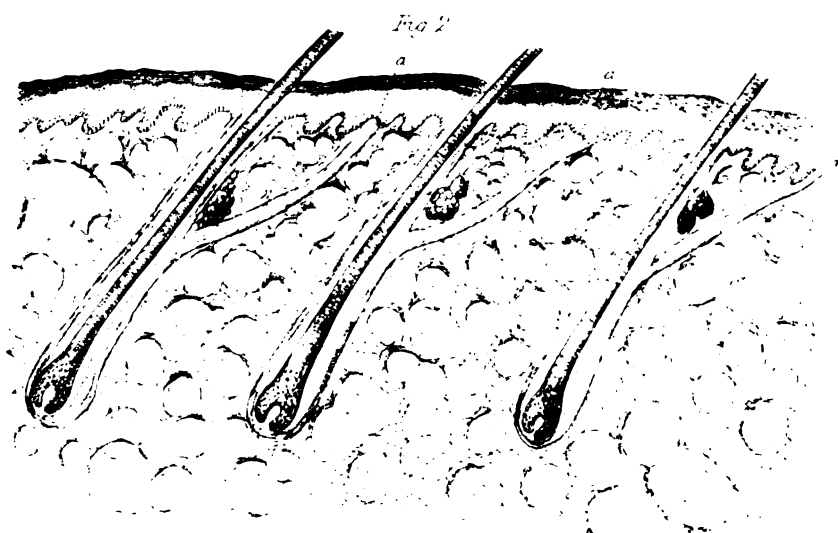
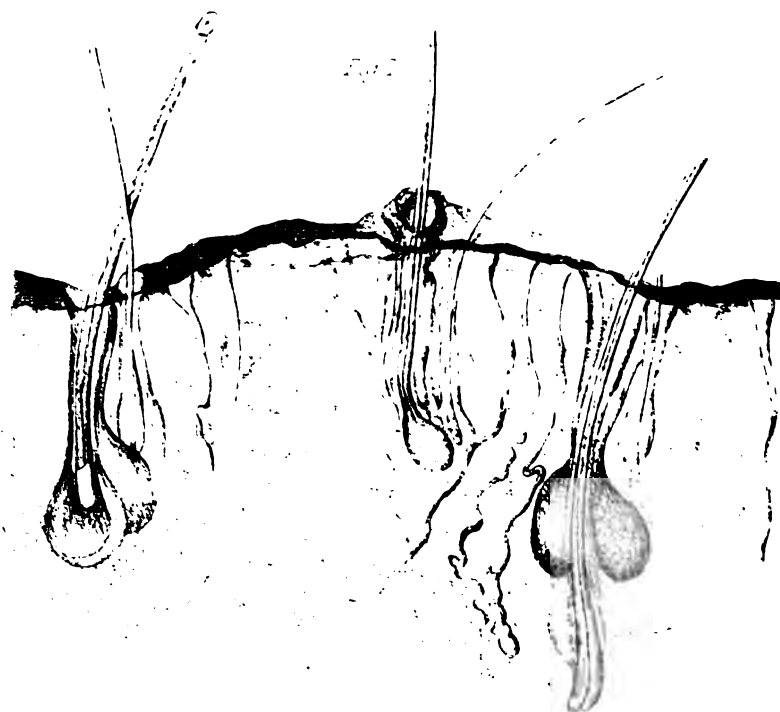


Plate II



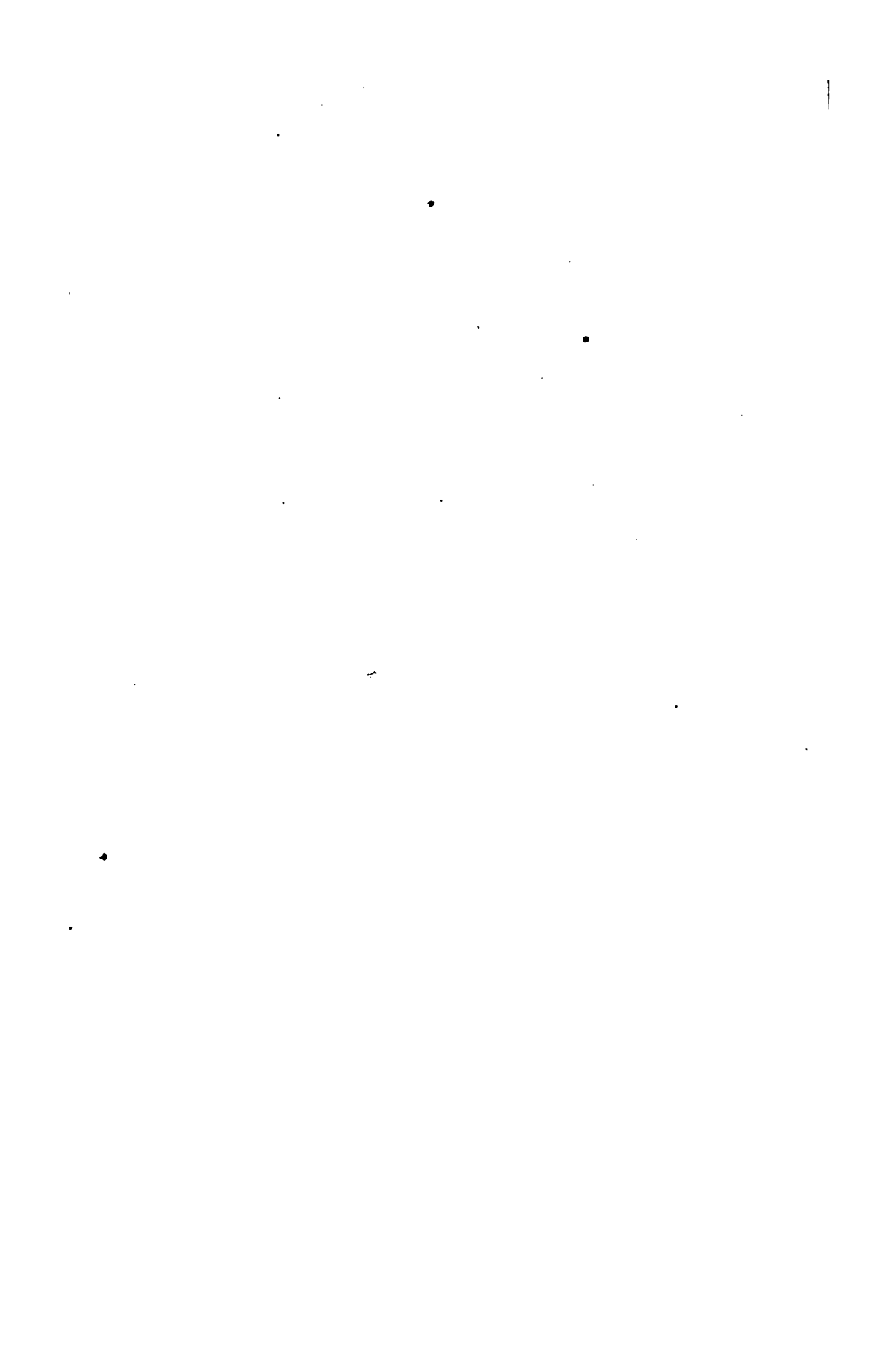
DESCRIPTION OF PLATE II,
ILLUSTRATING THE STRUCTURE, ETC., OF THE SKIN.

Fig. 1. Sudoriparous glands and hair follicles. (Preparation H a, 110, R.C.S.)

Fig. 2. Section of skin of the scalp, principally intended to show the involuntary muscles attached to the hairs.

Magnified 25 diameters.

a, a, a, indicate the muscles, which are oblique in direction, and attached to the hair follicle, immediately below the sebaceous glands.





DESCRIPTION OF PLATE III.,
ILLUSTRATING THE BLOOD VESSELS OF THE SKIN.

Fig. 1. Portion of the skin of the scalp (human fœtus, aged six months) injected. Many of the branches from the larger trunks arise at nearly a right angle, and these chiefly join offsets of a like size. They are for the most part distinct from the smaller vessels. The anastomoses of the latter are very intricate, and form a close arterial network. (Preparation H a, 129, R.C.S.)

Fig. 2. Represents a vertical section of the skin of the human foot, showing the blood vessels in the papillæ and around the sweat glands, also the ducts ascending from the latter. (Preparation H a, 112, R.C.S.)

Figure 11

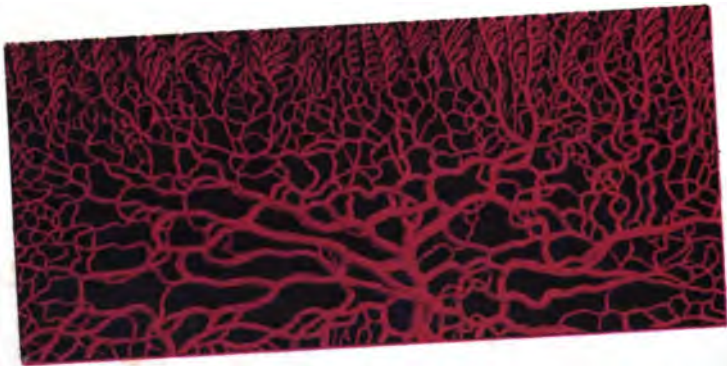


Figure 11. Tol. Patten West 199

W. West 1990

DESCRIPTION OF PLATE IV.,
ILLUSTRATING THE DISPOSITION OF THE BLOOD VESSELS BENEATH
THE NAIL.

The coloured portions (A, B, C, D) in this plate are intended to represent an injection of the skin immediately beneath the nail in its whole length. The part A, situate towards the free edge of the nail, is very vascular, and consists of close series of loops. In B, a similar arrangement exists, but the intervals between the blood vessels are considerably wider. In C, which corresponds to the "lunula," some loops are also observed, but only towards its upper part. The arterial branches are seen to arise from one or two main trunks placed near the centre of the root of the nail. D shows the disposition of the blood vessels, as the nail lies beneath the skin. (Preparation "ungual phalanx of little finger in a male," H b, 6, R.C.S.)

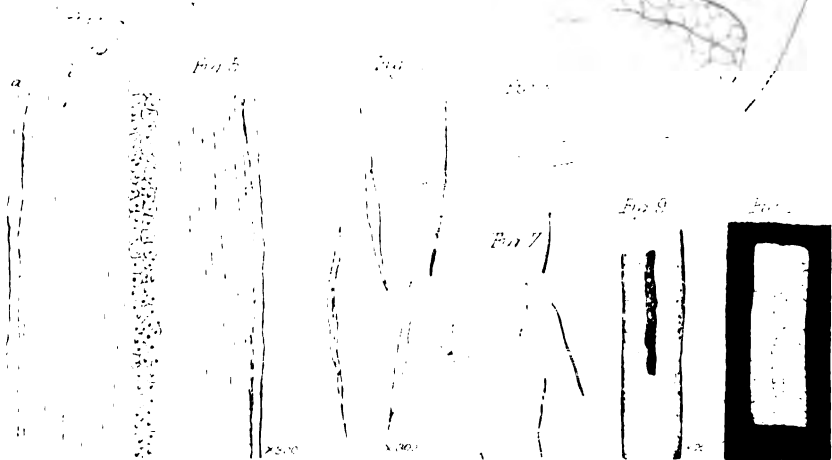
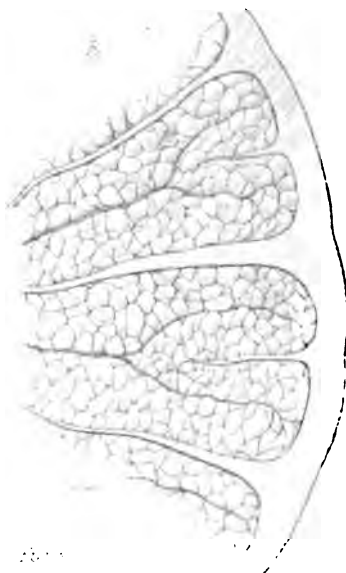
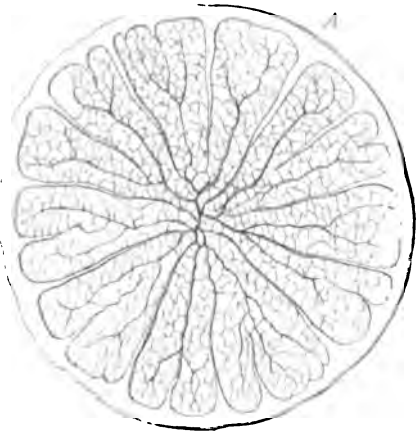
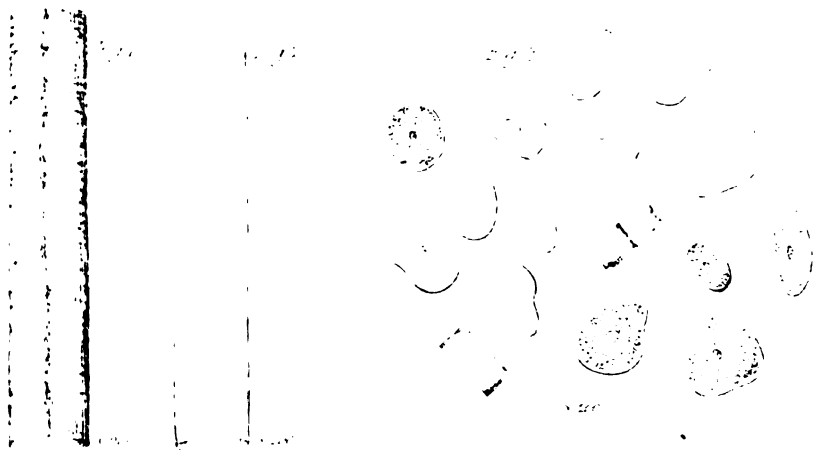


Fig. 4. ...

Fig. 9. ...

DESCRIPTION OF PLATE V.,
ILLUSTRATING THE STRUCTURE OF HAIR.

Fig. 1. Hair from one of the European dark races. (Preparation H c, 114, R.C.S.)

Fig. 2. Hair from an Albino. (Preparation H c, 118, R.C.S.)

Fig. 3. Transverse sections of human hair, to show the great diversities of contour. (Preparation H c, 116, R.C.S.)

Fig. 4. Transverse sections of porcupine quill. (Preparation H c, 66, R.C.S.)

A magnified about 15, B about 40 diameters.

Fig. 5. Portion of human hair, boiled in solution of caustic potash.
a, cuticle; *b*, cortical substance, with nuclei; *c*, cells of medullary substance; *d*, some of the latter isolated. (Adapted from Kölliker.)

Fig. 6. Cells of cortical substance isolated by the action of sulphuric acid; one seen edgeways. In the figure given of favus these are also well seen.

Fig. 7. Four of the slender elongated nuclei from these cells after maceration in caustic potash.

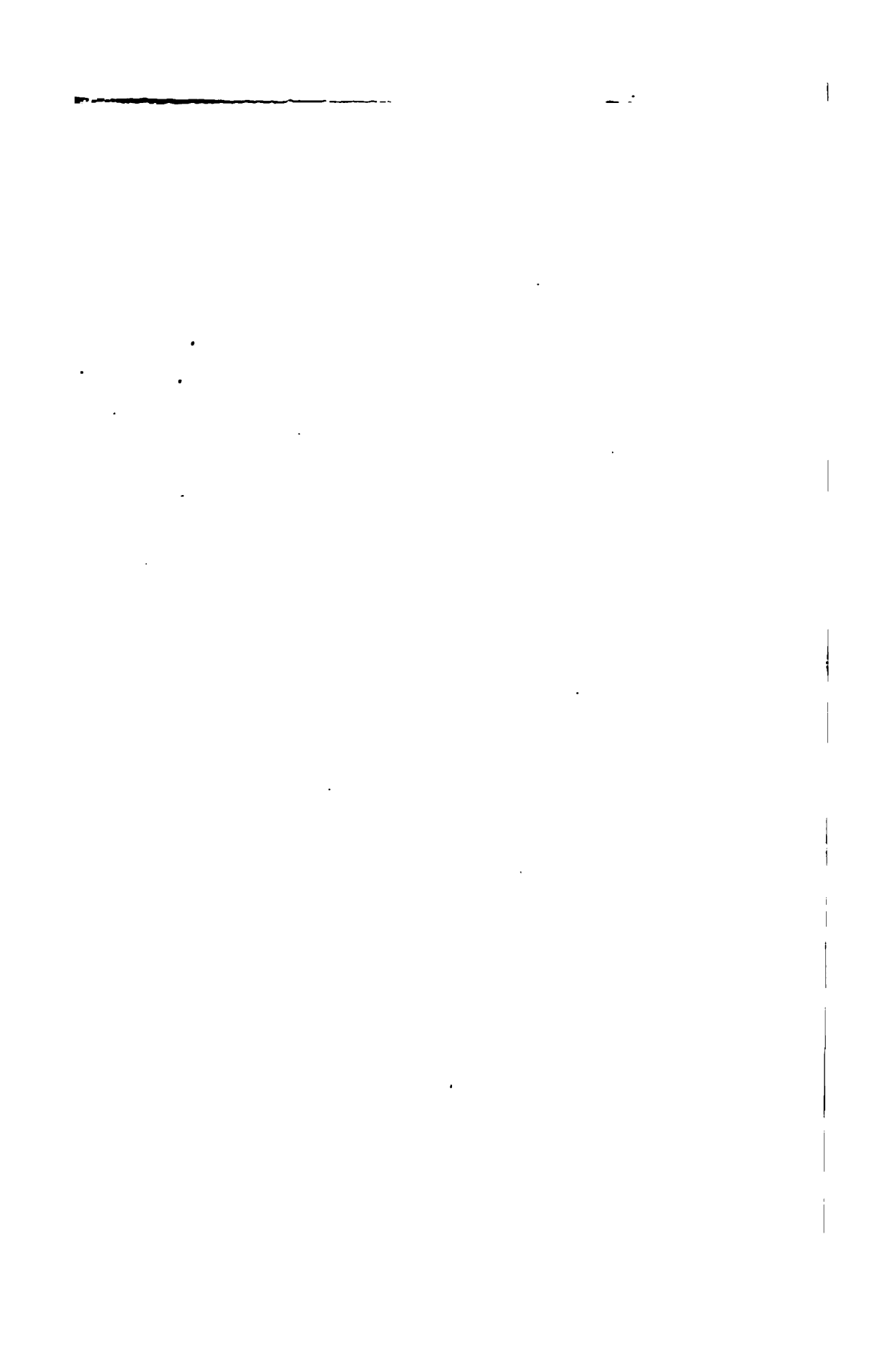
Fig. 8. Cells of cuticle obtained by the use of acid.

The last four figures magnified 300 diameters.

Fig. 9. Portion of a hair from the beard; the darkness of the centre proved by partial penetration of fluid to be due to the presence of air.

Fig. 10. A hair from the head, viewed as an opaque object, proving, by different means, that the ordinary dark centre does not depend on the presence of pigment.

These two figures magnified 200 diameters.



DESCRIPTION OF PLATE VI.,
ILLUSTRATING VEGETABLE SKIN PARASITES.

Fig. 1. *Achorion Schönleini* from favus crust.

a. Portion of a crust softened, and examined with glycerine and water; its composition is principally mycelium, sporules, and exudation matter, with here and there an epithelial scale.

b. Detached sporules and short filaments.

c. Small hair found embedded in the same piece of favus crust, and carefully removed by first softening the parts and then gently tearing away with needles; sporules are seen to be closely attached to it, but its integrity is not yet visibly affected.

d. Another small hair from this portion of crust, which is seen to be much split, and rapidly deteriorating.

Magnified 150 diameters.

Fig. 2. *Achorion Schönleini* in an unusual condition. Drawn by Dr. Maddox.

Magnified 400 diameters.

Fig. 3. Portion of scurf removed from a patient with pityriasis versicolor, and examined in glycerine after treatment with acetic acid. By this method the structures are rendered very distinct, and clearly show mycelium ramifying in every direction, with here and there masses of embedded sporules in a "resting" condition.

Fig. 4. Portion of the cryptogame, represented alone.

Fig. 5. Transverse section of skin, showing the cryptogame passing down a hair follicle, projecting slightly externally, where sporules are formed; and internally penetrating deeply towards the corium, and sending off branches right and left.

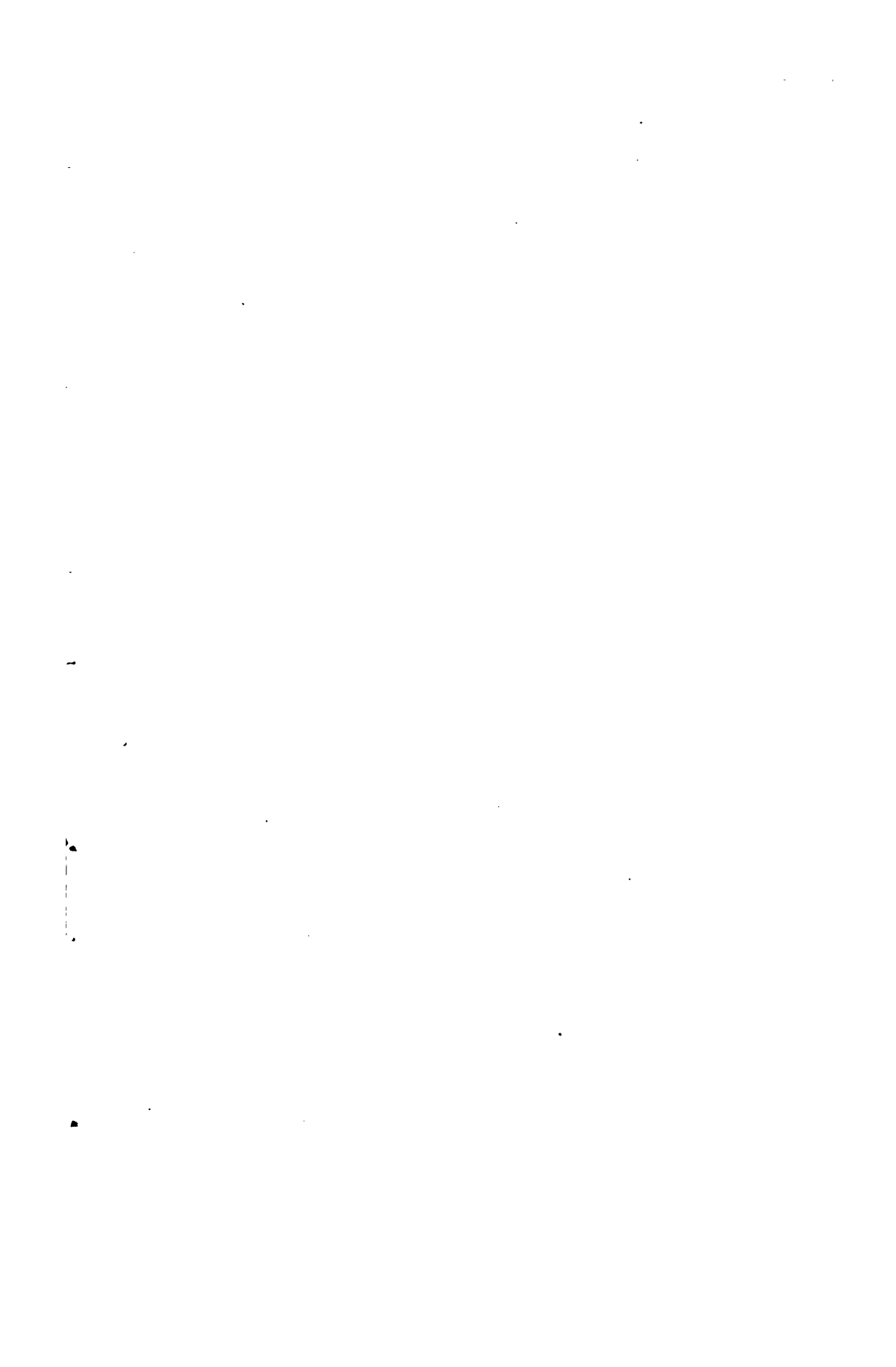
The above three figures magnified 250 diameters.

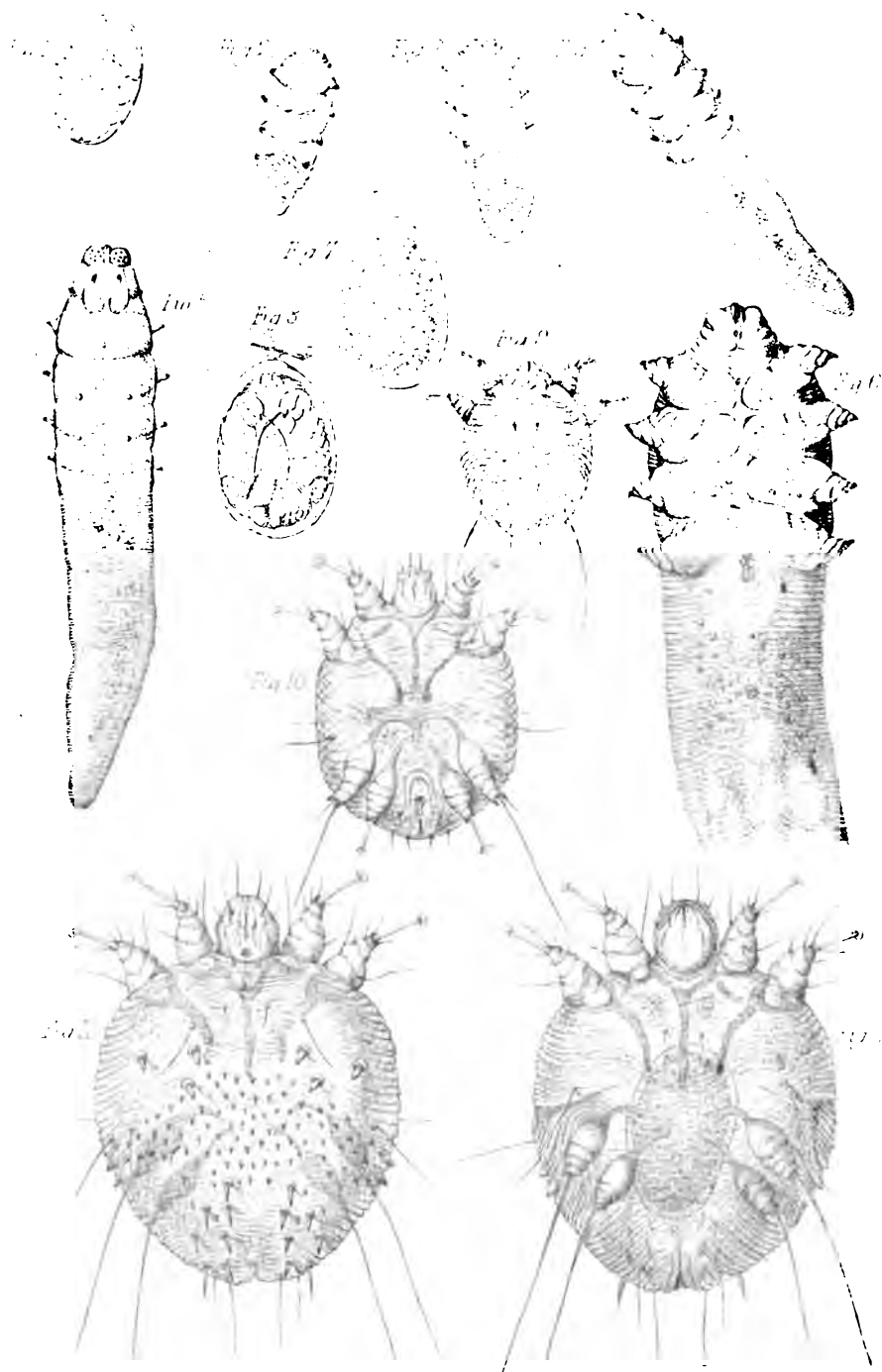
Fig. 6. *a.* Outline of hair in a marked example of *tinea tonsdens*, showing the distortion produced by the disease.

Magnified 50 diameters.

b. Portion of a hair in the same disease, entirely filled with sporules, which project from the broken off end.

Magnified 150 diameters.





DESCRIPTION OF PLATE VII,
ILLUSTRATING THE STRUCTURE AND DEVELOPMENT OF ACARUS
FOLLICULORUM AND ACARUS SCABIEI.

- Fig. 1. Ovum of *acarus folliculorum*, in an advanced stage.
Fig. 2. Young individual shortly after its escape from the ovum;
ventral aspect.
Fig. 3. Another young specimen, further advanced; dorsal view.
Fig. 4. Small but full-grown individual; ventral aspect.
Fig. 5. Fully matured specimen; dorsal view.
Fig. 6. Under surface of anterior portion of body, very highly magnified.
Fig. 7. Ovum of *acarus scabiei*, in early stage (rat).
Fig. 8. Another ovum of same, in which the rudiments of limbs may
be distinctly traced (rat).
Fig. 9. Young individual, recently escaped (rat).
Fig. 10. Mature male; ventral aspect (human).
Figs. 11, 12, represent mature females; the former showing the dorsal,
the latter the ventral aspect, respectively (human).

*All the figures magnified 150 diameters, except Fig. 6, which is enlarged
450 diameters.*

DISEASES OF THE SKIN.

CHAPTER I.

ANATOMY OF THE SKIN.

THE skin constitutes the great external or tegumen- Anatomy of the skin.
tary covering of the body, and is very similar in structure to the mucous membrane, with which it is continuous at certain outlets. It serves important functions in the economy, as a secreting, an absorbing, as well as a tactile organ. The most constant of all the tissues, it is present throughout the varied scale of the animal creation, where, in a modified form, it is often subservient to the purposes of protection and defence.

We may consider the skin as composed of an internal layer or cutis, composed chiefly of connective tissue, and rich in blood-vessels and nerves; and of an external coat or layer, consisting only of cells—the cuticle. Besides these, it contains numerous glands and horny appendages.

22 The *cuticle*, at its upper part, is composed of an Cuticle.
irregular distribution of flattened cells, heaped one upon another, and separated by no definite substance. The lower cells are nearly all destitute of walls, the nuclei only remaining, and apparent by their reddish hue. Unprovided with nervous elements or vessels of any kind, it is dependent for its nutrition on the vascular supply beneath of the cutis. The addition of new cells

in room of the old, which, as they reach the surface, are disintegrated or shed, takes place from below. The nuclei, as they ascend, are soon enveloped in a cell wall, and with the growth of the latter, a perfect nucleated cell is soon produced. With its approach to the surface, the cell loses its transparency and softness, acquires a hard horny state, and is no longer amenable to the same reagents as before. The thickness of the cuticle is proportionate to its requirements, and in this respect it varies from the sixth to the twenty-fifth of an inch. On the inside of the limbs, the face, and the generative organs, it is exceedingly thin. On the heel, where of necessity it is most needed, or on the palms of the hands, accustomed to much manual labour, the thickness is unusually great. Wherever developed, its object is to protect the subjacent papillæ, over which it is moulded with the most perfect accuracy.

Chemical
analysis of
the cuticle.

The following analysis of the skin, consisting chiefly of thick cuticle, which I obtained principally from the palm of the hand and the sole of the foot, was made by Dr. Marcet. It contained in every 100 parts—

Fats	11.32
Other organic substances	87.05
Mineral substances . .	1.63
	<hr/>
	100.00
	<hr/>

“The amount of mineral substances was too small to admit of a complete qualitative analysis: they consisted mainly of earthy compounds.”

In the dark races of mankind the colour of the skin is caused by a quantity of black pigment deposited in the lower cells of the epidermis. In examining a portion of the recent skin of a negro a short while ago, I found a dark beaded line just above the situation of the

so-called basement membrane, and the upper cells of the epidermis scarcely differing from those observed in a fair skin. Some of the masses of fat in the subcutaneous tissue were also of a notably dark hue.

The *cutis*, or true skin, as it is termed, is a network of *Cutis*. fibrous material, the close texture of which is most evident in its superficial layers. Inferiorly it passes by insensible gradations into, or becomes blended with, the subcutaneous tissue, with which it is identical in structure. In this, its lower part, it presents various-sized openings, in which are lodged pellets of fat; these are at once recognised by their lighter colour and transparency. The relative amount of white fibres in the cutis is determined by the degree of resistance to which that part of the skin is liable, while the supply of the yellow fibrous element is regulated by the elasticity demanded: hence the excess of the one in such a situation as the sole, and the increase of the other in the axilla, or the integument over a joint. Not only is the skin thus rendered elastic, but it is also highly contractile. This latter property it derives from minute muscles of the involuntary kind, whose vermiform action is occasionally witnessed in the scrotum when exposed to cold. The existence of these muscles, first demonstrated by Kölliker, has since been proved in every part of the body provided with hair. They consist of distinct bands (Pl. II., fig. 2) of an uniform thickness, and oblique in their direction to the surface as well as to the hair. Superiorly they are connected, generally by muscular, but in some cases, according to the interesting investigations of Mr. Lister, by tendinous fibres, with the deeper layer of cells composing the cuticle; while below they become inserted into the external longitudinal fibres of the follicle.

Muscles of
the skin.

Sometimes the muscle is divided at its origin into several heads, each having a separate point of attachment. In its course it passes, as in the figure, beneath the sebaceous glands of the skin, but without actually touching them, as far as can be ascertained. When in action, the muscles bring the hair into a perpendicular direction, and so occasion the roughness excited by cold and other causes.

Papillæ. The upper surface of the corium is studded with papillæ, which may be viewed as conical elevations of the true skin, possessing each an average height of $\frac{1}{16}$ of an inch, and half this measurement in diameter at their base. In Plate III., fig. 2, are several branches of the cutaneous arterial plexus, sending forth from two to six offsets, which ascend perpendicularly to each papilla, entering its base in a close spiral manner, and forming a loop near its summit. In fig. 1 of the same plate is portrayed the mode of distribution of the vessels of the skin in the fœtus, to which reference has already been made.

Nerves—
their mode
of distri-
bution.

That the amount of nervous matter in the skin is very considerable, may be fairly conjectured from its extreme sensibility; but it is exceedingly difficult to follow, with any reliable accuracy, the termination of the nerve filaments. For a long time it was supposed that the nerves, like the blood-vessels, ended in loops in the papillæ, each final branch losing its axis band, and becoming reduced to a gelatiniform fibre. Later researches have further demonstrated the existence of certain bodies, "tactile corpuscles," in those parts of the skin where the sense of touch is most acute. I propose to follow the description of these bodies as given by Funke. In all the papillæ containing nerves, states this author, there is seen in their axis an oblong oval body, occasionally constricted

Tactile
corpuscles.

at different portions, and of varying length. It is sharply defined from the rest of the papillary substance, and conspicuous by its well-marked striæ. The upper part of this body reaches generally to the end of the papilla, and takes up about two-thirds of its width. On nearer inspection, we find that the striated appearance of the tactile body is caused by small parallel-edged shining bands, which are occasionally directed across it. The individual striæ diverge with various degrees of obliquity; often three or four are given off from one point in the centre to the free edge of the body. It is by no means easy to ascertain with precision the extremities of the striæ. Many appear to stop short (their dark edges becoming suddenly pale), without our being able, through a change in the focus, to bring their terminal points into view. We can but seldom distinguish with certainty a knotty or pointed ending of such a cross stria. Funke further remarks, that he has never detected anything like a fibrillar arrangement in the tactile corpuscle. On following the nerves which pass together with a corpuscle to a papilla, we may succeed in tracing the dark-edged fibres to the edge of the corpuscle itself. The nerve fibres either enter like a pedicle at the lower part, or they pass laterally upward to a greater or less distance, or wind round it in a spiral manner. According to this view, the tactile corpuscle is embedded in the papilla, forming a closed vesicle, and filled with a granular mass. Into it the nerves enter in order to spread out into branches, each terminating in a series of small shoots—the cross striæ of the corpuscle. As to the nature of the final ending of the branches of the nerve, satisfactory evidence is wanting. They seem to terminate within the vesicle, in free pointed or round extremities.

Kölliker thinks that the transverse striæ are nuclei, and with this idea Huxley appears to agree. The strongest argument in its favour is the fact pointed out by Gerlach, that they turn red by imbibition as nuclei do, and as nerve fibres do not. These writers suppose the nerve fibres not to enter the corpuscle. Miesner and Funke consider the stripes to be the ultimate nerve fibres; the fibre of the nerve, after entering the corpuscle, breaks up into a little bundle of minute fibrillæ. In support of this, they assert that the stripes become converted into fatty molecules, when the nerve degenerates after section. The history of the development of these bodies also inclines to the same view.

The tactile papillæ are situated mostly on the palm of the hand or the sole of the foot, and particularly on the ungual phalanx of the fingers; in this part Miesner found, within the compass of a square line, 108 of the tactile to 400 of the vascular papillæ. He has traced them, but in fewer numbers and less regularly, on the dorsum of the finger. Kölliker is said to have discovered them in the fungiform papillæ of the tongue, the lips, the imperfectly developed nipple, the glans penis, and the clitoris.

Hair.

Nearly allied in structure to the epidermis is the *hair*, which gives a complete investment to the scalp, and in a rudimentary or less perfect form covers the entire body; the only exceptional parts which are quite denuded of hair being the palms of the hands, the soles of the feet, and the external surface of the eyelids.

Examined with the microscope, the shape of the hair appears to be cylindrical, and of the same uniform diameter, except where it tapers towards its free extremity. Running through its central axis is a dark line, mostly

interrupted at intervals, which represents the internal or medullary portion. The latter, which does not always exist, being absent in childhood, and occasionally wanting in the finer hairs of the adult, is a tube, filled more or less with cells, arranged in a single or double row, and flattened by mutual pressure. If some of these be removed, as in fig. 5a, each is nucleated, and contains a few granules. The central canal is capable of partial penetration by fluid (fig. 9), and that it does not possess pigment, as formerly supposed, is proved on viewing it as an opaque object (fig. 10), when the dark centre disappears. The cortical cylinder surrounding the central portion is fibrous in its texture, and in part composed of nucleated cells. The nuclei, which are only detected after maceration in caustic potash, are long and slender (fig. 7), and the cells from which they are derived are mostly spindle-shaped. It is to the cortical tissue that the hair owes its elasticity, firmness, and colour; the latter quality residing in pigment granules, which are exceedingly minute and disposed in lines. They are estimated at $\frac{1}{150000}$ of an inch in diameter. The external cylinder surrounding the central portion is fibrous, and composed of a number of fibrillæ, which are collectively encased in a scaly envelope. That the hair-shaft is made up of fibrillæ is evident, if it be broken or crushed, or on section, as in Plate V., fig. 3, where the dark points indicate the cut surface of each fibril. The same figure also shows that the hair, instead of being truly cylindrical, is rather disposed to be somewhat irregular or kidney-shaped, or even compressed, its tendency to become flattened increasing with the darkness of its colour, and being particularly evinced in the negro. The outer surface of the hair is not perfectly smooth, being

coated with a single or double layer of cells, imbricated in their disposition, and tortuous or spiral in their relation to its longitudinal axis.

The component parts of the hair are best studied by a comparison of the analogous structures in some of the lower animals; and I may take this opportunity of referring to one or two instances, which strikingly display the tissues we have just considered. The outward covering of the hair in the bat, for example, shows a regular series of scales, jutting out from the shaft like the barbs of an arrow; and in the bristles of the hedgehog, or the quills of the porcupine, which are in reality hairs, the fibrous material attains its maximum of development; the horny part of the quill of the latter being similar in composition to the same element of the hair, and the medullary canal subdivided into a number of partitions, containing fatty granules (Plate V., fig. 4).

The hair, as it enters the skin, which it always does at an angle more or less acute, afterwards increases in circumference, and terminates in a pyriform enlargement or bulb. The depth thus penetrated is determined by the natural strength of the hair, as well as by its situation. In the scattered distribution of the hair over the general surface of the trunk and limbs, as well as in the young subject, the hair scarcely reaches below the cuticle, while in more favoured regions in the adult it will extend through the cutis to the tissue beneath. As soon as it has pierced the skin, the hair is contained in a follicle, which is commonly regarded as an involution of the skin, divisible into an external or fibrous layer, having its fibres disposed longitudinally; a middle or transverse layer; and an internal structureless membrane. At the lower part of the follicle is a papilla, rudimentary in

man, but of large size in such animals as the tiger or bear, which ascends for a short distance in the interior of the shaft, and conveys nutriment to the cells, but separated from them by a basement membrane. Henle is very minute in his account of the structure of the hair follicle. Structure of hair follicle. Besides the external or longitudinal layer, the middle one is composed of a layer of circular fibres, 0·5 mm. in thickness, and resembles in many respects the circular and muscular coat of the intestines. Like the latter, after being treated with acetic acid, it is transformed into a substance consisting of several layers of club-shaped longitudinal nuclei, lying at an equal distance from each other, and disposed in concentric lines. It is distinguished from muscular tissue by not being torn into single fibre cells, and boiling does not render its ultimate substance turbid, or the nuclei invisible. The innermost layer, adds the same authority, is a homogeneous membrane, transparent as glass, unaltered by acids or alkalis, of ·005 to ·008 mm. in thickness, and containing a single layer of annular fibres. The latter are parallel or anastomose at an acute angle.

The hair, as is well known, is influenced by a moist or dry state of the atmosphere, and elongates or shortens according to one or other of these conditions. Its electricity in the human subject is often made the subject of experiment. The follicle is freely supplied with blood, a dense capillary plexus, derived (as in the papillæ) from one of the cutaneous branches, ramifying over it. In several injected specimens, that I have lately examined in the College Museum, of the hair follicle or sheath in the vicinity of the lips, the follicle is nearly transparent, and is not unlike in figure to an ordinary test tube closed at its lower part.

Colour of
hair.

The colour of the hair in the European race is generally distinguished as "black, brown, or fair." In the African and the Asiatic it is usually dark; in the Negro, the hair is scarcely less characteristic than the natural tint of his skin. Well-authenticated instances are related of the hair becoming suddenly white; the change being rendered complete in a few hours. This can only take place through the agency of strong mental emotion, and is said to be caused by an acid, which permeates the substance of the hair, and thus destroys the colouring matter. The whiteness of the hair, so commonly observed as attendant on advanced life, is far from being infrequent among Europeans at a comparatively early age in the tropics. Instances of congenital whiteness of the hair are not often met with. I have under my care, at the present time, a girl, aged nine years, an Albino, whose scalp is covered with perfectly white hair. The usual pink-coloured eyes, with light eyebrows and eyelashes, are present in her case. She has two sisters, one of whom in this respect resembles herself, but the other is entirely free from any such defect. Her parents I have examined. They are perfectly healthy, and each has an ordinary supply of brown hair. As far as I can learn, there is no trace of any similar peculiarity in the rest of her family. Another instance, also under treatment, is a girl, eight or nine years of age, whose scalp is quite white in its centre, bounded by a fringe of dark hair. The loss of colour is said to have succeeded scarlet fever.*

* The diversity of colour in the skin among the various races of mankind has long attracted attention. That this difference is in some measure attributable to climate is apparent from the fact, that the nearer we approach the equator the black tint of the native is almost universal; as, for example, in the Ethiopian or the Nubian, who are distinguished by the excessive blackness of their skin, which vies in its hue with ebony. That other influences beyond mere

The hair consists, in great part, of sulphur, which is ^{Chemical composition of the hair.} soluble in alkaloids giving off ammonia, but insoluble by boiling in acetic acid, which distinguishes it, according to Müller, from horn or from epidermis. The power of the hair in resisting decay, when all the remaining tissues of the body have long crumbled to dust, is attested in the Egyptian or Peruvian mummies, many centuries old, in which the hair alone is preserved. It may be reduced by ultimate analysis to an ash, containing the oxide of iron and manganese; and in white hair, the phosphate of magnesia and the sulphate of alumina.

The *nails* are horny cuticular coverings placed at the ^{The nails.} extremities of the digits, on their upper aspect. Each presents a smooth glistening surface, which terminates in a free border in front, while behind, at its root, it is received within a fold of the corium. Near this part is seen a white crescentic spot, the lunula. Laterally, the nail is in contact with the epidermis, and inferiorly it is in intimate relation with and firmly attached to the cutis. On section, the nail exhibits a number of dry epithelial scales, arranged as so many laminae, and marked by several vertical lines. The latter are, however, merely the effect of disposition of the scales, and disappear ^{Microscopical appearances.} under a high power of the microscope. If, after being

geographical position are at work seems certain. Those who refer the change in colour exclusively to climate cite the Parsees, who, driven some centuries ago from their country, have long settled in our Indian territories, where they retain a comparatively fair skin; a condition assumed to be due to their sedentary habits and little liability to encounter the rays of the sun. To this argument it may be replied, that the Parsees, true to their creed, preserve their customs inviolate. As they were in Persia in the times of their forefathers, so they remain to the present hour. On the other hand, the Portuguese themselves, the descendants of a fairer because an European race, have, by successive intermarriages with the natives, perpetuated an offspring many shades darker than the aboriginal.

treated with a weak solution of caustic soda, a thin section be examined, the nuclei of the cells are well displayed in the lower layers of the nail; or separately, as in Pl. I., figs. 7, 8, where the original form of the cell is restored, containing in its centre a large nucleus. Towards the matrix the nail shows a number of ridges, ending each in a truncated apex, and separated the one from the other by an interval of considerable width. These projections, which are no other than cells in a more perfect condition than those of the superficial layers, and containing moreover nuclei, dip down, as we shall presently see, between the corresponding folds of the matrix, and, by thus interlocking, greatly add to the adhesion of the nail to the surface beneath. They cover the papillæ also, and materially assist in the production of a new nail, should the old one be violently removed. The papillæ are of large size, and extremely vascular: from the abundance of vessels in their interior, they communicate the red tinge which is always observable in a healthy nail through its semi-transparent structure. The matrix from which the nail has been detached (Pl. IV., figs. *a, b, c, d*) is remarkable for its vascularity. That part of its surface which corresponds to the lunula is still white, and sparingly supplied with papillæ, which are only just visible, and yet preserve their linear arrangement. No sooner, however, is this line passed, than, as we advance forwards, the entire surface offers a series of longitudinal folds, displaying the looped arrangement of the blood-vessels in the papillæ, and the furrows separating the latter. As many as from fifty to ninety may be counted at this part, and the highest vascularity is seen the nearer we arrive at the so-called edge of the nail.

Arrange-
ment of
blood-
vessels be-
neath the
nail.

The rate of growth of a nail, according to M. Beau, ^{Growth of nail.} is about two-thirds of a line in a week for one belonging to the finger; but a much longer period, nearly a month, is required for that of the toes. If, therefore, we assume one of the former to measure six lines, a space of 105 days, or 15 weeks, will be necessary for its complete growth; and for the toes, taking the same standard of measurement, 405 days, or nearly sixty weeks, will be needed.

Sudoriferous or sweat glands.—These are situated ^{Sudoriferous or sweat glands.} immediately beneath the cutis, where they form so many separate masses of no regular shape, and distinguished chiefly by their darker colour from the surrounding fat vesicles. When unravelled, each gland consists of a single tube, rolled up into a kind of coil, and terminating at its upper part in a duct; or sometimes the tube is double for a short distance before it ends in the duct. The latter ascends vertically, or nearly so, as far as the intervals between the papillæ. From this point, and still preserving the same direction, it becomes very tortuous, and finally ends on the free surface of the skin. Sometimes the sweat glands and ducts are less complicated in their arrangement. Instead of a convolution, one or more turns or loops only are noticed, and the duct, no longer spiral, terminates by a large funnel-shaped dilatation (Plates I. and II., figs. 3, 1). In the fœtus, the glands are represented by so many tubes, which, although wavy in their course, are not twisted towards their closed extremities (Plate I., figs. 1, 2). Their walls are almost quite transparent, and filled with columnar epithelium, similar to that composing the epidermis. In the adult, the tubes are lined by one or more layers of polygonal nucleated cells, which are destitute of pigment granules.

Perspiration.

The perspiration, which it is the special office of these glands to prepare, is discharged continually. Under ordinary circumstances, the secretion takes place slowly and imperceptibly, the aqueous particles are absorbed as soon as they reach the surface by evaporation, and no sensible change is felt. Should the body, however, be exposed to any influence causing an increased secretion, the latter collects, trickles down the skin, or, as in the palm of the hand, shows a number of transparent points, and there mingles with other matters, as those of the sebaceous or cuticular kind. Owing to this admixture, it is extremely difficult, or impossible, to obtain the perspiratory fluid sufficiently free from impurities as to admit of a correct chemical analysis. An approximation, therefore, can only be made; and in the following tables are given the respective investigations of the sweat by Anselmino, Favre, Schottier, and Funke.

In 1,000 parts.	Anselmino.		Favre.	Schottier.	Funke.
	I.	II.			
Water	995	987.5	995.573	977.40	988.40
Solid residue	5	12.50	4.427	22.60	11.60
Epithelium	0.10	0.25	..	4.20	2.49
Fat .....	..	..	0.013	..	..
Lactates .....	..	..	0.317	..	..
Sudorates .....	..	..	1.562	..	..
Extractive matters ..	1.45	3.62	0.008	11.30	..
Urea .....	..	..	0.044	..	1.55
Chloride of sodium ..	2.40	6.00	2.230	3.60	..
Chloride of potassium			0.024	..	..
Phosphate of soda ..	..	..	Trace	1.31	..
Alkaline sulphates ..	1.05	2.62	0.011		
Earthy phosphates ..	..	..	Trace	0.39	..
Salts (total) .....	..	..	..	7.00	4.36

Number of sweat glands.

The number of sweat glands in the palm of the hand, where they most abound, has been estimated by Krause at 2,736 to the square inch. In the neck, a situation least favourable to them, they only amount to 417 within

the same space. The total number of glands over the whole body has been computed by the same authority at not less than 2,381,343. Kölliker states that they first appear about the fifth month of embryonic life, and are composed of outgrowths of the mucous layer of the skin.

Sequin attempted to determine the exact amount of perspiration. He fixed the average rate of exhalations from the skin at 11 grains a minute, and that from the lungs at 7 grains, so that $2\frac{1}{2}$ pounds are in this way lost from the skin in the course of 24 hours. The object of the large secretion of water from the sudoriferous glands is to produce cold by evaporation. Cases, which I need not quote, are reported of the intense heat which through this agency the human frame has been known to withstand for several minutes. Probably the best instances of exposure to continued and excessive heat, are afforded by those whose duty it is to supply the furnaces in hot climates. They are invariably natives of Africa, for no European constitution would be equal to the task. The quantity of carbonic acid discharged from the skin has not yet been ascertained, although, as an adjunct to perspiration, this is highly important. Among the amphibia, a class distinguished by the thinness of their integument, it has been proved by actual experiment, that carbonic acid will be exhaled from the skin after it has ceased to be generated by the lungs. M. Breschet also tried the effect of covering with an impenetrable varnish the skin of an animal, after the removal of the hair. He chose some rabbits, and experimented on them in this way. They died, with all the symptoms of asphyxia. It was also shown, that with the application of the varnish the temperature of the body fell. Thus, before the skin was shaved, the temperature of the body

was 38° C.; as soon as the covering became dry it fell to 32°, and in an hour after sank to 25° 50'. Another function of the skin is absorption. This is frequently taken advantage of in medicine, when we wish to avoid giving substances by the mouth. Familiar instances are supplied by mercurial inunction, or the vapour bath. Solid agents are absorbed with difficulty, and even those of a liquid form act most readily, if the cuticle has been previously removed.

Conditions
of perspira-
tion.

Before quitting the subject of perspiration, a few remarks may be made on the influence of certain conditions, which, to a great extent, regulate or determine its amount. The question has been ably discussed by Weyrich, and is fully considered in the *British and Foreign Med.-Chir. Review*,* which contains an abstract of this author's views. The instrument on which his calculations are based is constructed on the principle of the condensing hygrometer. A detailed account of its structure would be beside my purpose in this place, but I may draw attention to the author's results, which were obtained with much labour and skill. No exact conclusions appear to be deduced from his experiments, in so far as they relate to the season of the year, or the variations of the pressure of the air. The influence of temperature is more marked, and while between 55° and 70° F. the variation in the perspiration is little changed, any excess or decrease beyond this range is followed by a corresponding increment or decrement in the amount of perspiration; that for every 1° C. = 1½° F. below 55°, there is a decrease of perspiration = 1 or 1½ per cent. of the sum total discharged; and on the other hand, an increase of nearly 2 per cent. when the temperature

* See Journal for October, 1863.

exceeds 70°. The period of the day is also said to contribute a greater amount of perspiration as compared with that of the night. The effect of disease in promoting an increase or diminution in the secretion of the skin is exemplified in fever, in Bright's disease, and in diabetes; and to this I can append, from personal experience, the influence of sleep in causing a marked excess of the perspiratory secretion in severe intermittent fever. The effect of food or exercise in increasing the perspiration is sufficiently patent to every one. The warmth occasioned by the ingestion of hot fluids, particularly those containing alcohol, or even tea and coffee, is well known; while prolonged fasting is followed by a great want of the secretion of perspiration.

Another species of glands belonging to the skin is the *sebaceous*, which, in their structure, present different degrees of complexity. Sometimes they resemble little bags, which terminate each in a duct, opening on the free surface of the skin, or else communicating with the sheath of the hair a short distance from its upper extremity. In a more elaborate form they are severally made up of a cluster of lobules, the ducts of which, uniting at various intervals, at length end in a common tube. The depth at which they are situated in the skin is subject to variation. It may be stated generally that the complexity of their structure is proportioned to the thickness of skin penetrated, but, like the sudoriferous glands, they never pass beyond the subcutaneous tissue. When connected with the hair sheaths, they are usually arranged in pairs. They are very numerous in the skin in such localities as are covered with hair, as the scalp, armpits, or organs of generation; but altogether absent in the palms of the hands and the soles of the

Sebaceous
glands.

Their situation.

feet. They also exist beneath the prepuce, where they give rise to a peculiar secretion; and much of the odour emanating from the axillæ is derived from the same source. The smallest glands are those which occur on the scalp; the largest are found on the mons veneris, labia majora, and scrotum. Of similar structure are the Meibomian glands.

Purpose
of the
secretion.

The secretion furnished by these glands is evidently intended for the purpose of lubricating the skin and hair; to contribute to the softness and pliancy of each, as well as to moderate the degree of perspiration from the surface. It is a soft greasy substance, modified in different parts of the body. Thus, the cerumen of the external ear is nothing more than a product of this kind, guarding the passage from foreign intrusion; and of a similar nature is the vernix caseosa, which covers the foetus *in utero*. In hot countries the sebaceous secretion is abundant; and in these climes its efficiency is increased by being artificially mixed with other articles to protect the skin from the rays of a scorching sun. In what way, and to what extent, the secretion serves to eliminate impure matters, as the hydrocarbonous compounds, from the blood, it is difficult to say, but that its function in this respect is of paramount importance can hardly be questioned. Its chemical analysis is obtained with difficulty. A microscopical examination of the vernix, according to Dr. Davy, shows a quantity of granular plates and molecules; the former having some resemblance to tessellated Roman pavement. The plates, he says, are very thin, and vary in size from the $\frac{1}{100}$ th to the $\frac{1}{1000}$ th of an inch in diameter. They are insoluble in weak acids or alkalies. The vernix caseosa possesses, says the same eminent authority, other properties, which I now proceed to describe:—1st. A specific

Vernix
caseosa.

gravity lighter than that of water, "even after several hours' boiling the whole did not sink"; it is retentive of water to an extraordinary degree. 2ndly. At a temperature of 100° it is almost semifluid, and as such admirably adapted for a lubricating substance. Below or above this, at a temperature of 60° or 212°, it hardens, and becomes converted into a kind of paste. A single specimen which he obtained of great purity from a healthy infant, immediately after birth, was found to consist of

13·25 epithelium scales.

5·75 oleine.

3·13 margarine.

77·87 water.

100·00

"A portion of the same was incinerated: it burnt with a bright flame, and left a very small quantity of white ash, hardly $\frac{1}{10}$ th of a grain, although 40 grs. was the quantity consumed, weighed before drying. This ash, in a drop of dilute muriatic acid, dissolved, emitting a distinct smell of sulphuretted hydrogen; and the solution was clouded by adding a little ammonia; thus indicating the presence of a minute portion of phosphate of lime and sulphur—the latter in union, probably, with lime or potash."* An analysis, somewhat different, is given by Bueck:—

5·40 epithelium.

10·15 oleine and margarine.

84·45 water.

A protein substance of an unknown nature was found by Leman, in the proportion of 4 per cent., in the vernix caseosa, and 5·6 per cent. in that of the sebaceous matter or smegma of the prepuce. He also discovered more fat,

* *Physiological Researches*, by John Davy, M.D., F.R.S.

as much as 26·2 per cent. in the former, and 47·5 in the latter secretion. According to Kölliker, the sebaceous matter is a secretion, consisting of cells composed of fat, or intermingled with fat drops. "These cells," he remarks, "are developed in the vesicular extremities of the glands, by a process of cell formation, entirely depending, as in epidermic structures generally, on pre-existing cells. The free fat in the sebaceous matter of the skin arises from the bursting of the sebaceous cells, and probably also from transudation through the cell wall."

Acarus folliculorum.

After puberty a small parasite, *acarus*, or *demodex folliculorum*, is often to be met with inhabiting the sebaceous glands of the skin, and especially where it covers the cartilaginous portion of the nose or the chin. There are few persons, even in health, in whom this animacule does not abound. The merit of its discovery, in 1842, is accorded to Simon, who mentions three varieties of it. Its structure has also been minutely described by Mr. Erasmus Wilson. In the specimens, Pl. VII., figs. 1, 2, 3, 4, 5, 6, which are drawn from nature, we observe it in the various stages of development. Taking the full-grown insect, we find a pair of circular suckers, of equal size, and projecting on either side of the mouth, above as well as below; each sucker presents from seven to nine depressions, to enable it to adhere. Attached to the under aspect of the thorax, on either side of the middle line, are four legs, which are separated from one another by equal intervals. They are all alike, and each ends in a *single* sharp and curved claw. The animal in motion exactly resembles a caterpillar; it can retract or expand its legs, which are provided near the base of the claw with an excrescence or spur, on which it rests when putting the foot to the surface in walking. Immediately

Its anatomical structure and development.

behind the last pair of legs, but without any line of constriction at the thorax, commences the abdomen. This in length measures half as much again as the rest of the body, and gradually tapers towards the tail, which is truncated. Its lateral edges present a finely serrated appearance, caused by the transverse folds of skin over this part in its whole extent. So transparent is the creature, that the outline of irregular, but mostly circular, masses are visible in its interior, but no sign of an anal or sexual aperture can be perceived. In fig. 5 we can distinctly trace a delicate envelope containing the food and other products, which, wide in the abdomen, becomes narrower in the thorax, when it again appears slightly to expand. Some indication of a division of the anterior part of the body into transverse partitions, corresponding to the several pairs of legs, are likewise visible. In an earlier stage of existence (see figs. 2, 3) the abdomen is relatively much shorter; it either becomes exceedingly narrow, ending nearly in a point (2), or, later still (3), it offers an opposite condition. Moreover, at this period the animal has only six perfect legs, the hindmost pair being scarcely complete, and not yet visible beyond the outline of the body. In the ovum (1) the body is bent upon itself, but its general character can be estimated even at this stage.

CHAPTER II.

PSORIASIS AND LEPROA.

Psoriasis
and leproa.

SURPASSING in frequency all other diseases of the skin are those of the squamous class, which bear the names of PSORIASIS and LEPROA — names either of them dating from a very remote period, and including, until recent times, complaints possessing little in common. They now comprehend a large and important section of a single ORDER, which likewise embraces *pityriasis* and *ichthyosis*.

The following subdivisions or varieties are assigned to psoriasis—*P. vulgaris*, *P. guttata*, *P. palmaris*, *P. gyrata*, *P. diffusa*, and *P. inveterata*; and to leproa—*L. vulgaris*, *L. alphoides*, and *L. circumscripta*.

General
characters
and situa-
tion.

So nearly in their general character do psoriasis and leproa resemble one another, that they may be ranked under the same head. Both are non-contagious, unaccompanied by any discharge, and distinguished (except in certain cases, to which I shall hereafter refer) by white or silvery-looking scales of cuticular structure and origin. They occur as patches, with an irregular or oval outline, and may be found on any part of the body or extremities. Their chief seat is the coarser or thicker portion of the skin, as the outer aspect of the limbs; sometimes the back; and when met with as a single patch, the forehead or cheek is not unfrequently selected; or the scalp, in which case a number of patches generally unite to form a single mass. The most common situation of all is that about

the elbows or the knees. In the earliest stage, when scarcely perceptible to the eye, a feeling of roughness is communicated to the hand, when passed over one of these patches; and minute scales, often only visible with a lens, may soon be detected. With the further or complete development of the disease, as in *P. inveterata*, the scales sometimes become so numerous as to be detached on the slightest pressure, and are rapidly renewed; and as the complaint approaches recovery, it shows, particularly in lepra, a marked tendency to heal in the centre, while the circumference gradually loses its crescentic shape, and finally disappears, the skin retaining for some length of time a dark red hue. If some of the scales be removed, which can be easily done with care, the subjacent surface will be seen to be smooth, and of a deeper tint than the natural skin. The patient experiences a sensation of itching and heat in the part, which is increased by any excess of temperature, as that arising from exposure to the fire, or the warmth of the clothes in bed. Should the disease be met with in the acute stage, then the itching is sometimes scarcely to be borne, and much irritative fever is likewise present.

Psoriasis and lepra are, in a large proportion of cases, ^{Often} hereditary, and in some predisposed constitutions would appear to be engrafted, as it were, upon another complaint. Examples of the former following closely upon eczema, herpes, and the like, are not infrequent. Psoriasis and lepra may occur at any age. I had under my care at the Skin Hospital (Jan. 1866) a patient, 74 years old, who, for the first time, became troubled with psoriasis only a twelvemonth beforehand; although for three years previously he had suffered greatly from lichen. No period of existence confers immunity from these squamous

Causes. affections, which may, however, be considered as pertaining rather to youth or middle age than to either extreme of life. Still less can they be regarded as dependent on peculiarity of temperament, or allied to any strumous or other diathesis. I am able to confirm the statement of Neligan, that psoriasis sometimes appears in the collateral branches of a family, while the immediate descendants are free from the disease. It is more common, however, to find it invade in the direct line. On the other hand, instances do arise in which no hereditary tendency can be traced; and it is not rare to discover one only of several children of the same parents the subject of this complaint. Sometimes it is the eldest alone, at others the youngest, who is thus attacked, or it may be any intermediate member of the family; and, in extreme cases, I have known psoriasis to extend more or less to each child. Changes of temperature would seem to have their share in producing or reproducing these disorders, which are more frequent in the autumn, or on the sudden accession of severe, or wet weather; and in those who are naturally predisposed, they are apt to follow continued exposure to the sea air. Like many other diseases of the skin, psoriasis and lepra sometimes supervene on parturition. The eruption appears on the mother a few weeks after suckling, and continues to increase for several months, unless the child is weaned. So powerful, indeed, is the influence of lactation in some of these cases, that psoriasis may follow each successive pregnancy. Sudden emotions of the mind, as excessive grief or anger, are noticed, especially by continental writers, as conducive to psoriasis; while improper articles of diet, as acid fruit or vegetables, or shell-fish, are one and all rated among the

predisposing causes. Certain trades or occupations, as that of a smith, or a gold or silver refiner, &c., or when lime is used, will cause a peculiar form of psoriasis, affecting the back of the hands; and again, when arising from an external irritant, we meet with an inflamed and severe variety, which involves the arms as well as the hands, in washerwomen accustomed to the use of soda. A certain local kind of psoriasis is not an uncommon result of constant pressure acting on the skin, and as such is observed on the neck, or below the chin, from wearing a hard stock; in the female sex, a similar condition occurs on the inside of the knees, from the application of a garter. Gastric derangement, in children especially, often ushers in an attack, and the subjects of rheumatism and gout are more than others liable to it.

One thousand cases of psoriasis and lepra alone have been recorded at the Hospital during the years 1861, 1862, and part of 1863, in Mr. Startin's practice, while the sum total of admissions in the same period amounted to 7,687, being in the ratio nearly of 1 to 8 of this one disease to all the rest. In this account I have been careful to exclude readmissions, as well as any complaints that could not strictly be comprised under the term of cutaneous diseases, as struma, varicose ulcers, and other kindred complaints.

A striking difference is maintained between the sexes in the frequency of psoriasis and lepra, as 604 cases of the above were females, and 396 males. These statistics, although they do not agree with those determined by Hebra, are corroborated, and in a distinct manner, by M. Devergie and Mr. Erasmus Wilson. Thus the former gives 280 in 1,800, or 1 to 6½—a higher proportion than that which I have arrived at; and from

Relative
frequency
of psoriasis
and lepra.

1,000 cases of skin complaints of every description, obtained entirely from his private practice by Mr. Wilson, 73 are stated to refer to psoriasis and leprosy, exhibiting a proportion of 40 to 23, being twice as great in the female in comparison with the male sex.*

Diagnosis.

Although the *diagnosis* of psoriasis is usually unattended with difficulty, there are yet several affections of the skin from which it is by no means always easy to distinguish it. The raised patch, the non-existence from the beginning of any kind of discharge, and, still more, the presence of scales, will, in the great majority of cases, prove sufficient in determining the question. Sometimes, in chronic eczema which has become perfectly dry, where the surface is dull red, and covered with thin crusts or scales, the line of distinction between the two is not so evident. For instance, the later stages of eczema rubrum, as seen on the extremities, may bear a close resemblance to some forms of psoriasis. On inquiry into the history, if it be ascertained that a slight oozing was perceived from the surface in the first instance, or if any pus globules can be detected in the crusts, it will be decisive as to the disease not belonging to the squamous order. Allowing the neighbourhood of the knees or the elbows to be the localities usually chosen, psoriasis, especially where it has existed for years, will sometimes appear on the front of the arm as a large irregular patch, notable for the fineness of its scales and their uniform distribution: the least pressure removes a multitude of them. At the joint a smooth

* These figures I have given from Mr. Wilson's *Inquiry into the relative frequency, &c., of Diseases of the Skin*, 1864, page 37, where psoriasis is referred to under the name of alphas. While going through the press, Mr. Wilson has informed me that the number should be 33, instead of 23, females.

surface will often be seen, consisting of healthy skin, not larger than a sixpence in size. Another point of distinction from eczema in this situation is the absence of those transverse lines or markings of the skin which so commonly attend Ecz. intertrigo.

In one or more of the varieties of lupus, and particularly in that species denominated the erythematous, which selects by preference the cheeks, ears, or eyebrows, the difference is not so great as may at first sight appear. In that kind of psoriasis which may be called *P. annulata*, from its similitude to a ring, the centre of which has completely healed, leaving only a raised circumference, and especially when a number of these are collected together, as on the neck, they offer a close resemblance to herpes circinnatus. From it they differ in the absence of any vesicles, which are generally found in herpes, and in being non-contagious. In the month of November, 1865, there was attending among the out-patients under my care, a young married woman, aged 25 years, with this psoriasis developed over the greater part of the chest and abdomen. Not only was the true figure of a ring, which was broad and somewhat flat, well marked, having the area free, but many of the circles were joined by a second ring, of smaller size, exactly like the numeral eight in shape. Although married five years, she had had within that period two miscarriages and two children that were dead at birth. The commencement of recovery in *P. annulata* takes place at the point, or rather line of contact of the circles, and as a result, two unequal segments alone remain, which afterwards disperse.

It is possible to confound psoriasis with chronic impetigo, when it occupies that portion of the nape of the

neck which is protected by the hair. In this locality, psoriasis is often slightly tubercular, and the roughness thus occasioned serves to mask its real nature. In such a case the history will suffice of itself to determine the diagnosis, which is mostly confirmed by more direct evidence of the same affection elsewhere.

Lichen circumscriptus is also liable to be mistaken for psoriasis; and, lastly, a very great similarity exists between this and chronic erythema papulatum, a disease comparatively rare, and not much referred to by surgical writers. In the latter complaint the patches are more raised, and assume, towards their recovery, a colour approaching to violet.

Should there be a suspicion that the complaint is syphilitic, which it often is, our opinion will be strengthened by noticing its situation. Cases of psoriasis palmaris are commonly of this kind, and very chronic in their nature—extending, as the records of the Hospital for Diseases of the Skin show, over a period of several years. The same character applies, with perhaps greater force, to psoriasis or lepra plantaris, which will now and then be restricted to one foot. Again, the eruption may occupy an abnormal seat, or the spots may be more or less tubercular. In one instance that came under my observation, the psoriasis was chiefly confined to the penis, the glans of which did not escape. It is curious to observe the small amount of irritation that attends many of these specific cases, unless the eruption occurs on the head, when aching pains are felt in and about the scalp. Finally, the coexistence of psoriasis with some other cutaneous disease, as lichen, eczema, or the well-known coppery tinge and symmetrical character which secondary complaints are wont to assume, will be taken into account

Syphilitic
psoriasis.

in the absence of any syphilitic history or other symptoms. Sometimes, in advanced life, or at an earlier age if the patient be much out of health, dark yellow or brown-coloured stains will be left for some time on the skin after the scales have subsided, which are in no degree connected with syphilis. This distinction it is important to bear in mind. When, in the adult, the disease is probably syphilitic, we may sometimes perceive a generally falling-off of the hair, which is never renewed, or the tongue presents a chapped or fissured condition—signs, either of them, not without their significance, or the patient complains of excessive languor, and is easily depressed. In ordinary psoriasis, although the roots of the hair may be entangled with scales, no permanent baldness follows.

I have before remarked, that, in certain instances, the presence of scales, which are so characteristic of psoriasis, is wanting, or the scales themselves are very imperfect; and it is to cases of congenital syphilitic psoriasis that my observations on this point more especially apply. Such examples are common enough, for instance, in children, where the disease occupies the genital organs, or the margin of the anus; or, again, the inner border of the sole of the foot. The surface in either instance is dull red, and without scales. These cases tell their own tale, irrespective of any history. In after life the complaint appears as distinct patches on various parts of the body, it may be on the back of the hand, or the armpits, or the elbow, but the same absence of scales, or their imperfect character, is always observed.

In another class of cases, but not necessarily syphilitic, the silvery colour of the scales is replaced by a darker hue, and the crusts, as they may more properly

Absence of
scales in
syphilitic
psoriasis.

Psoriasis
prominens.

be styled, are remarkable for their boss or shield-like form. They are firmly adherent to the surface, which sometimes bleeds on any attempt to detach them; but the surrounding skin is seldom inflamed. Sometimes a single crust is seen; or, if there be many, others of smaller size, but still retaining the central prominence, may be discovered generally in the vicinity. They are usually seated on the front and upper part of the leg, or else the forearm; and in most instances observed under or about the age of puberty.

Prognosis. Although not dangerous, lepro and psoriasis are sometimes exceedingly obstinate; and instances of relapse, at particular seasons of the year, are not at all uncommon. If seen at an early period, and without any complications, a favourable result may be expected.

Treatment. The *treatment* of psoriasis and lepro should be regulated by the age and constitution of the patient, the stage of the disease, and its complication or otherwise with any other disorder. When the inflammatory symptoms run high, which is frequently the case at the onset, we should employ the ordinary means to subdue them. The abstraction of blood, in any mode, is inadmissible. Among the agents at our disposal may be named the

Salines. neutral salts of magnesia, in combination with soda or potash, given in some bitter infusion. These are intended to act, but not too powerfully, on the intestines, while to lessen the irritation of the skin, should this be excessive, we shall find the admixture of antimony of great service. When the irritation has at length abated, we may commence with a different plan of treatment, and administer arsenic, a remedy that has long held, and still

Arsenic. possesses, a great and deserved reputation in the treatment of this class of diseases. In the exhibition, however, of

such a powerful agent, care must be taken to discontinue it, should any constitutional symptoms arise. This will not often occur, when properly given; and it is seldom that we find instances of the injurious effects of arsenic amongst the large number of out-patients for whom this mineral is prescribed. The flushed cheek, a pretur-natural redness of the conjunctiva, seen at once on depressing the lid, and a general redness of the surface, as well as a great increase of irritation, sufficient in most cases to preclude all sleep, show that the action of the arsenic has exceeded its curative limit. Dr. Fowler considers twelve drops of the solution which bears his name, an ordinary dose for an adult; and, when commencing with two drops for a child of two years, increases the dose by an extra drop, corresponding to every additional year, to the age of eight. This standard would seem to be too high, as far as its administration is concerned in the treatment of skin affections. Pareira states, "I have seen very minute doses of arsenic given to patients affected with leproa, and continued for many days, without being able to detect the least indication of its action on the system, except the amelioration of the disease." This statement I fully endorse. As a general rule, three minims of the liquor potassæ arsenitis represents the dose most advantageous in psoriasis and leproa; which, when occurring in the adult, and in a chronic stage, are largely benefited by its use. In some cases we may deem it prudent to continue the salines in less quantity, and add to them the arsenite, as in those constitutions denoting much plethora, and in others that still require lowering means. In an opposite class, in which the condition of the patient is below par, the arsenic may be beneficially combined with some preparation of steel,

as the syrup of the phosphate of iron, or the muriated tincture of the same mineral, or with cinchona in decoction. Sometimes, in the young adult, I have found this treatment very serviceable in those cases, for example, where the urine has shown a continued low specific gravity, and a less than normal amount of urea. If amenorrhoea, or any functional derangement of the uterus exists, it should first receive our attention, before any other constitutional treatment is undertaken.

Value of
mercury.

When the disease is of syphilitic origin, it will be desirable, in lieu of arsenic to administer mercury, with the iodide of potassium. Thus the eighth of a grain of the bichloride, or its equivalent in the liquor hydrargyri bichloride, may be prescribed with three grains of the iodide of potassium, in a suitable vehicle, twice a day. It should be remembered that the effects of mercury are more likely to be manifested than those of arsenic, and we should be on our guard to omit or suspend it altogether when any untoward consequences are indicated. In early life, whether the complaint be syphilitic or not, mercury is preferable to arsenic. Many cases of hereditary psoriasis commence soon after birth, as from the first to the fourth or fifth week; or they are delayed to the sixth or seventh year, the period of the second dentition; or, later still, to the time of puberty. Of these different epochs, the first is undoubtedly the most favourable to the development of syphilis; and I believe that severe psoriasis is rarely seen at this age, unless in a syphilitic form. In these cases mercury alone should be given, and, indeed, its exhibition will generally be successful at any age below that of fourteen or fifteen years.

Local treatment.

With respect to local treatment, a mild mercurial answers best, as the red precipitate of mercury, to which

creosote may be added. A formula much in use at the hospital is the following:—Creosote, six minims; nitric oxide of mercury, ten grains; and lard, one ounce. It is of importance to remember that much difference exists between the ordinary creosote prepared from wood tar, and the German creosote obtained from coal tar, which is almost identical with carbolic acid, and greatly to be preferred. Among other applications may be mentioned the compound mercurial ointment, consisting of six grains each of the white and red precipitate, to an ounce of cerate; or the red ointment, which is composed of bisulphuret of mercury, nitric oxide, of each five grains, to an ounce of lard. The patient should be directed to apply one of these ointments at night, and in the daytime sponge the surface with a lotion, either of the following kind, or one of mercury—a grain of the bichloride to one ounce of water.

Of late carbolic acid has been used externally with ^{Carbolic acid.} considerable success. As a lotion, it is thus prepared:—carbolic acid, fourteen grains; spirits of wine, half an ounce; glycerine, an ounce; water, one pint. A carbon lotion, which is of advantage when much irritation exists, is made up of a solution of carbon detergens, half an ounce; glycerine, one ounce; water, one pint.

The application of nitric acid in solution, one drachm ^{Nitric acid.} of the dilute acid to seven or eight ounces of water, is often beneficial in certain kinds of psoriasis of the palms or soles of the feet. To a more delicate surface, such as the skin of the face, an useful agent will be found in the biborate of soda, in the proportion of about one drachm to half a pint of water, and half an ounce of rectified spirit.

In a large patch of leproa which has become chronic, it

Blistering the surface. will sometimes be of advantage to blister the surface with the glacial acetic acid, or the common preparation of cantharides, under the influence of which the colour of the part immediately becomes white. In either case the blistering fluid should be at once washed off with a brush dipped in plain water, otherwise a bleb will most likely form, and produce much local annoyance, besides retarding recovery. It is convenient to have at hand a weak solution of soda or ammonia, in order to diminish the irritation, should it prove to be severe. The vesicant may be painted over the surface with a camel-hair brush, or the feather of a pen, and then allowed to remain undisturbed for two or three days.

Dulcamara, &c. Various other remedies are in repute among continental surgeons, as the decoction of dulcamara, &c. Cazenave speaks highly of the tincture of cantharides internally in those instances, in which the disease has reappeared without evident cause. He recommends it to be given at first in doses of four or five drops in water, and gradually increased to twenty-five or thirty drops a day, if no serious symptoms arise. He cites a case of lepra of eighteen years' standing that recovered undered this treatment. The external use of the ioduret of sulphur in local psoriasis, in the proportion of twelve to twenty grains to an ounce of lard, is also recommended by him. The *huile de cade*, or oil of juniper tar, is much in vogue in France as an outward application in psoriasis. It may be mixed with equal parts of simple cerate, or used alone. M. Hardy, in his *Leçons sur les Affections Cutanées*, says that it should be well rubbed into the whole of the affected surface.

Copaiba. The balsam of copaiba is also favourably spoken of abroad, as an internal remedy for psoriasis, but it is

seldom employed in this country. An instance is quoted by Hardy of psoriasis and blennorrhagia, in which copaiba was administered. Not only did the latter complaint cease, but the cutaneous eruption itself disappeared under this treatment.

The hura brasiliensis in decoction has been tried ^{Hura brasiliensis.} internally by Hebra, with success, in twelve cases; but the symptoms which followed, he allows to have been severe. He likewise mentions having treated successfully with water dressing, local psoriasis, when slight and confined to the extremities, but the process is tedious. The same may be said of the result of the application of "kali," or other soaps, containing sulphur or tar. If a ^{Kali and tar soap.} patient be affected with psoriasis diffusa or inveterata, from two to four ounces of the soap, according to age, may be rubbed into the part with a woollen rag, until the epidermis is removed and the surface is red from the detachment of the scales. It should not be applied over too large a surface at one and the same time. The patient afterwards must remain between the blankets for three or four days, and the process is then to be repeated. Without disputing the value of these remedies, and we are assured by Hebra, that the kali soap is of great efficacy in psoriasis of the scalp, the use of them in practice is found to be extremely difficult, on account of the conditions imposed by their application. In carbolic acid we have an agent fulfilling the purpose afforded by tar, and in a much less disagreeable form.

Psoriasis and leprosy sometimes subside spontaneously. Alibert cites a case of leprosy vulgaris which entirely disappeared on the supervention of small-pox; and Gibert (vol. i., p. 431) says, on the subject of psoriasis, "Nous avons vu quelques malades guéris par l'invasion d'une

fièvre, d'un érysipèle, &c., mais nous ne saurions affirmer que ces guérisons aient été exemptes de récurrence."

Baths.

Patients will derive great comfort from an ordinary warm or vapour bath, but on no occasion should soap be allowed. A substitute may be obtained in oat or barley meal, or in thin starch. Of great service in chronic psoriasis is the alkaline bath, which may be used once or twice a week, at a temperature of 95° or 96° Fahrenheit. It is prepared by adding four or five ounces of carbonate of soda to a pint of hot water, which is then mixed with thirty gallons of plain water. The sulphur mineral baths are of efficacy in certain intractable cases of psoriasis inveterata. Those of Harrogate and Aix-la-Chapelle are among the number, which most deserve our attention. The alkaline springs of Vichy and Ems, which consist chiefly of the bicarbonate of soda, are sometimes of signal service in chronic psoriasis, which has resisted ordinary treatment.

Diet.

A strict diet should be enforced. At whatever age the disease shows itself, all kinds of stimulating food, highly-seasoned or made dishes, should be avoided. The same prohibition likewise extends to salads and sweets. Plain roast and boiled meats, poultry and fish, may be allowed; but exception must be taken to pork, salmon, and shell-fish. So long as the disease is acute, as evidenced, besides other symptoms, by the deposition in the urine of large deposits of the urates, and by thirst, the patient may be permitted to drink freely of plain toast and water, or, should he prefer it, seltzer, Vichy, or soda water. Alcoholic and other fermented liquors should be, of course, excluded in psoriasis and lepro. The only exception to this rule, in my experience, is to be found in those cases in which, to a syphilitic origin, is super-

added great mental anxiety, or where the bodily powers are overtaxed. Under such circumstances not only will the patient derive assistance from a moderate quantity of pure wine or malt liquor daily, as bitter ale, but also from a few weeks' change of air, provided it be not to the sea coast.

The *varieties* of psoriasis and leprosy are next to be considered.

Psoriasis guttata.—This eruption consists of a number of distinct isolated patches, often quite circular in shape, varying in size from a quarter to half an inch in diameter, and generally seated on the extremities, particularly the forearm. Sometimes a few spots appear on the face, or on the trunk only, or they may coalesce and form a larger patch; in extreme cases, such as are occasionally seen in children, the entire surface, from the crown of the head downwards, with the exception of the hands and feet, is dotted in this way. Unless syphilitic, which it may be, psoriasis guttata is seldom chronic, and when first seen, the apices of the patches, which are very small, are each covered with one or more thin white scales, that increase, and at last conceal the entire spots. As the eruption declines, the scales are less frequently produced, but the surface remains for some time of a dull red colour. The disease is generally met with at an early age, or in the young adult.

Psoriasis palmaris.—Adults between 40 and 50 years of age are most liable to this troublesome form of psoriasis, which may be confined to one hand, but commonly involves both. I have, however, seen it as early as the age of 15 years. On examination the palm is fissured, and more or less covered with patches, which in some cases are as white as in leprosy albugines, and circular. Now

and then the latter condition is absent, and the surface shows only a number of irregular cracks, especially towards the fingers, which occasionally bleed and give rise to much distress; or the same aspect is rough only, from minute scales, while the transverse lines on the palm are distinguished by excessive whiteness. The hand in psoriasis palmaris is hard, stiff, and often swollen; and any attempt to flex the fingers is attended by increased pain. Sometimes this variety is associated with psoriasis of the soles, or psoriasis of the nails or fingers. In a few cases the disease is limited to the tips of the latter, which are covered with thick, irregular, and fissured crusts, more than commonly adherent, and of a darker colour than ordinary. Much irritation is experienced, and if the complaint continue, it will creep along and beneath the free edge of the nail, which is then secondarily attacked, but in an inverse manner to what generally happens, for the nail becomes diseased from above downwards, instead of from its root. In severe cases of psoriasis plantaris I have sometimes seen the scales partake of the character of ichthyosis, so densely grouped and thick were they along the inner margin of the foot.

Psoriasis
gyrata.

Psoriasis gyrata is an extremely rare form of the disease. In the 1,000 instances previously quoted, 12 are described as of this kind, or nearly 1 in 180. Mr. Startin, in his Lectures, refers to it as occurring in the proportion of 1 to 100 cases of psoriasis, or even more. The peculiarity of this complaint consists in the tortuous or annular arrangement which it presents. Some authors mention it as mostly situated on the trunk, and others on the extremities. In one case that came under my observation the eruption appeared in an unmarried woman, 20 years of age, and was seated between the lower lip

and chin. In another it was seen on the forearm, and in the third the disease showed itself on one side of the face. These cases are almost always of a syphilitic character, and devoid of scales.

By *psoriasis diffusa* is meant that variety which sometimes occurs on the extremities, where it constitutes one or several irregular patches, with an ill-defined border; differing, in this respect, from another kind, which is termed *psoriasis marginata*, where the margin is clearly drawn. Whatever be the size of the patch, the colour is generally of a dull, dark red; and it is frequently crossed with numerous lines or intervals, which have only a few thin scales on its surface, and these are for the most part curled at their edges. In some instances the expression of *general* psoriasis might be appropriately applied to this species; and it will be often found to attack the face in addition to the trunk; and when it involves at the same time the upper extremities, it spreads to the back of the hand rather than to the palmar surface. The complaint may last for years without deranging the general health, and is sometimes combined with *psoriasis guttata*. In advanced cases, the eruption will literally extend from the head to the soles of the feet; and when the irritation is so great, that the patient is unable to refrain from scratching, clefts appear on the skin, which oftentimes give rise to a bloody exudation or discharge.

By *psoriasis nigricans* is understood, as its derivation would imply, a certain black discolouration of the scales. I may say that I have never witnessed it; but there is a kind of psoriasis in which the scales are notably dark, a condition that is sometimes, though rarely, seen. This species, if it may be so styled, is

the result of, or at least is connected with, irregular or deficient menstruation, or a disordered state of the catamenia; and is, I believe, due to such a source rather than to syphilis, its commonly assumed origin. The patches are, at first, red and smooth; and after the disappearance of the discoloured scales, the smoothness of surface is regained, but the spots long remain of a brown or tawny tint, not unlike to what obtains in pityriasis versicolor.

*Psoriasis
inveterata.*

The last variety to be mentioned is *psoriasis inveterata*, so called from its chronic character. It sometimes covers the greater part of the body with a thin shell, intersected with furrows; or the extremities, when it causes much distress to the patient, as it is found to attack the neighbourhood of the joints, and thus to interfere with their movement. The scales are frequently shed in such quantities that the bedclothes are covered with a white friable powder, but no relief is thus obtained, as they are speedily reproduced. The skin is dry and harsh. The disease is less common in the young than in those who have passed the middle period of life. Occasionally it coexists with *psoriasis unguium*.

A few words on some remaining forms of psoriasis, which scarcely allow of their being arranged in a separate group, and are entirely local, now remain to be described.

*Psoriasis
facialis or
labialis.*

Psoriasis facialis or *labialis* attacks the face or the lips. In the former case the subjects of it are usually girls, about the age of puberty, with fair, delicate complexions. A roughness is detected on slight pressure with the finger, and the scales are small and indistinct. The complaint is mostly caused by the constant use of

soap to the face; and although it sometimes subsides in the summer, it is ready to return from exposure to cold and wind. Psoriasis of the ears is very uncommon. It is on their outer or external surface that the scales are formed, and the whole organ is more or less red. Although this may be the only part of the face affected, the disease will, in nearly every instance, appear on some other part of the trunk or limbs. When psoriasis affects the lips, it is in most cases syphilitic. It sometimes appears as a narrow band, half an inch deep, and commonly invades the lower lip, or it may encircle the mouth. In the greater number of cases, it readily yields to the exhibition internally of the bichloride of mercury, and the local application of the white precipitate ointment.

Psoriasis of the nails seldom exists alone, being generally connected with psoriasis inveterata, or else supervening upon eczema. Psoriasis of the nails. The nails lose their smooth and polished appearance, their surface becomes irregular, and they break or split. Sometimes they are painful towards the free edge, where they crack; but in the rest of their structure they appear healthy. In other cases, the surface of the nail presents a number of circular depressions not larger in size than a pin's head. In the first of these forms, the nails are very likely to be shed, but afterwards are regenerated. Again, in a case in which the nails are involved only, the latter are sometimes discoloured to a yellowish brown tint, and this is apparently the first change that takes place. Afterwards they become irregular, and the free edge of the nail is inclined to turn upwards, when it breaks off. Unlike the preceding varieties, no pain is experienced, and the new nails are less easily reproduced.

Psoriasis
of the
scrotum.

Psoriasis of the scrotum is generally of a congenital syphilitic nature, and often met with at an early age. Supposing it to occur in this form, and severely, the genitals, including the whole of the penis, as well as the scrotum, the lower part of the abdomen, reaching to or beyond the umbilicus, the inner and contiguous surfaces of the thighs, and the verge, for some distance, of the anus, will indicate a bright redness, which in vividity is exceeded by no other affection of the skin. The part is at the same time smooth, perfectly free from scales, and so irritable that the child can with difficulty be prevented from tearing the skin with his nails. As it yields to treatment, the surface is more or less mottled, and soon no other effects are visible beyond a faint discoloration. In the adult, even when non-syphilitic, a nearly similar extent of surface is frequently invaded, save that the penis and the abdomen are less liable to suffer, and the intensity of colour is wanting; in the scrotum the raphe is usually most implicated. Sometimes these instances are singularly affected by the weather, and become greatly aggravated on the approach of rain, or other atmospheric change.

Psoriasis of
the tongue.

Psoriasis of the tongue may happen independently, or with general psoriasis. The following instance will serve to exemplify its nature and treatment:—L. A., aged nine years, came under observation December 24th, 1862. A circular patch, as large as a threepenny piece, was seen at the centre of the tongue, towards its back part. Several cracks were also observed near to and radiating from it. The disease had existed for six weeks, and was limited to the tongue. The patient was directed to take a mixture, containing the chlorate of potash and mercury, and to use a gargle of the biborate

of soda. Under this treatment he quite recovered. Another and an excellent plan is, to order the patient to place on his tongue every night, five grains of grey powder mixed with two scruples of tragacanth.

In some cases of psoriasis, distinguished by the whiteness and abundance of the scales, the term *lepra alphoides* ^{Lepra alphoides.} is applied. The patches are larger than those of *P. guttata*, which they otherwise much resemble, and, like it, appear usually in early life.

Lepra circumscripta is the name given to that kind ^{Lepra circumscripta.} which is found as a circumscribed or solitary patch. It may occur on the face or extremities, and is not unfrequent on the scalp. The latter region, when attacked by chronic lepra, often shows a number of hard and irregular ridges, which are easily felt with the hand. This arises from the scales being collected in groups or lines around the roots of the hair.

CHAPTER III.

PITYRIASIS.

Pityriasis. *Pityriasis* is another of the squamous order of skin diseases, which is now to be considered. It is distinguished by numerous small thin scales, resembling flakes of meal or bran—whence its derivation, *πιτυριον*—which, under the microscope, present the ordinary characters of cuticle. Like psoriasis, to which it is allied, it is marked by the entire absence of any discharge, and by being non-contagious; but it differs from that complaint in the diminished size of its scales, which never form crusts; nor are they circularly disposed, as in lepra. It is essentially a chronic disease, unaccompanied by any febrile or constitutional disturbance. With the exception of some slight itching, not amounting to actual pain, the patient is free from distress.

Pityriasis may be divided into general and local. It admits also of another and distinct variety, pityriasis versicolor. Two other kinds are also noticed by Startin, Cazenave, and others, viz., *P. rubra* and *P. nigricans*, but these are exceedingly rare.

**Pityriasis
generalis.**

The first, or *pityriasis generalis*, so called from its occupying the greater part of the body and extremities, is not at all common, and is recognised by the very minute scales on the surface, which produce an abundant desquamation, are easily shed, and have the appearance of powder. This form is almost invariably congenital,

and if some of the scales be detached, the colour of the skin remains unchanged.

Local pityriasis resolves itself into *P. capitis*, *P. labialis*, and *P. palpebrarum*. It is needless to multiply the several varieties occasionally described. The former of these is known by an excess of scurf or dandriff diffused as minute scales amongst the hair, and generated frequently in great quantity. Some of the scales are attached to the scalp, where they often present an imbricated appearance, and the surface beneath retains its white or normal colour. If the complaint be seen in the very early stage, numerous small red patches may be observed, but this condition soon passes away. The most common form is that which occurs in children, or in those whose complexion is naturally fair; and its continuance or increase would seem to be caused by the constant use of a hard hair brush or tooth comb. Pityriasis capitis is likewise met with in advanced life, and appears like a cloud of dust when the hair is disturbed. In middle age, it will, if chronic, in some cases, tend to the development of a similar affection of the nose and cheeks.

A more severe sort of *P. capitis*, or *P. alba*, is mentioned by Alibert and Rayer, as "teigne amiantacée"; consisting, for the most part, of superimposed layers of epidermis entangling the roots of the hair, and giving rise to copious exudations. I think, however, with Devergie, that the disease so described is rather a chronic form of eczema than one of pityriasis, which is always free from moisture.

Another kind of pityriasis is characterised by a reddened state of the skin, particularly of the ears, the temporal region, or the forehead, which is occupied by scales, of the thinness of tissue paper. The patient

complains of a feeling of tension and heat in the part. It is more generally observed in women, and, like other varieties of pityriasis, mostly selects those who have a delicate and fair skin.

Pityriasis
labialis.

Pityriasis labialis surrounds the lips and adjoining parts. Some red stains first appear, on which are evolved small thin, transparent, cuticular laminæ. With the progress of the complaint the scales fall off, only to be succeeded by a fresh eruption; and the lips at length become swollen and red. This affection is sometimes very obstinate, and may last for years.

Pityriasis
palpebra-
rum.

Pityriasis palpebrarum, according to Mr. Startin, affects the eyebrows, and is often congenital. It is most frequently met with in females, and seems occasionally associated with an imperfection or alteration in the structure of the skin in these parts, resembling nævus. Pityriasis of the face is a very common complaint in children, especially among those of the poorer class, who recognise it as "scurf" of the face. It shows itself as one or more rough spots, but causes no irritation.

Pityriasis
versicolor.

Pityriasis versicolor, or chloasma, is of parasitic origin. The new growth bears the name of *microsporon furans*, and to it is mainly due the singular colour of this disease, which obtains that of a yellow or brownish hue. The tint, in some instances, is so light as to be scarcely perceptible, while in others, where the skin is fair, it can be recognised immediately. The eruption shows itself as several patches, which are sometimes small and circular, but more usually large and undefined, and only slightly raised above the level of the skin. The irritation to which it gives rise varies with the natural susceptibility of the individual; always most felt at night, it is at times very severe, and the patient

cannot be prevented from seeking to allay it by violent means. The largest size of the spots is attained on the body; and the arms are sometimes studded with round patches, which gradually lessen in size as they approach the wrist. A favourite locality is the front of the elbow-joint, where a smooth and oftentimes irregular patch alone is seen: and when the lower limbs are affected, it is mostly along their inner aspect that the eruption is declared. In certain instances, instead of extending from a single spot, it is evolved in various parts of the trunk or limbs, and the patches are separated by considerable intervals of sound skin. Again, the surface, in some cases is quite smooth, and in others it is covered with small and easily detached flakes. Chloasma is stated by some authors to be mostly present in phthisical patients, and especially in those who wear flannel next the skin; but it may occur in the healthy as well as the sick, and in others again, who have never used flannel. It is said to be, and as far as I have observed it certainly is, more common amongst those who have resided in warm latitudes, the East and West Indies, and particularly on the South American coast, where it sometimes affects the greater part of a ship's crew. The large patches are made up of a coalescence of small ones, and some of the latter may very often be seen near the circumference, like so many dots or islands, surrounded by healthy skin.

A peculiarity of this disease is, that it most rarely happens in children, or before the age of puberty. After this period, and between the twentieth and thirtieth years, the complaint itself, by no means an usual one, is most frequent. Beyond middle life it decreases in a marked manner, becoming almost unknown at 50 years of age

Its general
character.

Age of its
occurrence.

and upwards. Of 86 cases which have passed under my notice, in the course of five years, the earliest recorded age at which the disease appeared was 15½ years, the patient being a female. No less than 51 cases are reported in the interval from 20 to 30 years, the latter inclusive; and but 1 at the later age of 53. Some

Influence of sex. Influence is undoubtedly exerted by sex; as from the above, 54 refer to the male and 32 to the female—an inequality, which, applying to the whole, is, with one exception, also maintained in each year. As far as I have had an opportunity of judging, occupation has no share in producing chloasma.

Situation. Pityriasis versicolor occupies in general the trunk, and is sometimes well developed on the back. In many cases it is entirely limited to this region; and in one, that of a woman aged 57, an out-patient at the Skin Hospital, it was stated to have existed 14 years, and yet it did not exceed this boundary. In some instances the disease has commenced near the pubes, but more frequently it makes its first appearance on the chest, from thence spreading to the neck and upper extremities, and in a few cases only involving the lower. Seldom is it observed on the face. Twice only have I known it to occur in this situation. The patients were both young women, who also had the eruption on the breast; and in one it had obviously spread from this part to the neck, and afterwards to the cheeks and forehead. In the other, no such extension by continuity was perceived, and the forehead was the only portion of the face attacked. Still more rarely is it seen on the hands or feet.

Microscopical appearances. The parasite discovered in 1846 by Eichstadt, is mentioned by Kuchenmeister, as differing from all other fungous growths, in the length of its filaments,

and the spherical shape of its spores. To demonstrate it by a vertical section; I would recommend the plan suggested by Gudden, and adopted by myself, which consists in detaching the cryptogame, and with it the epidermis, by means of a vesicant of sufficient strength to raise a blister. The skin is then removed and examined. Its upper surface is composed chiefly of spores, derived from the mycelium, which penetrates in and among the scales of the epidermis, and often reaches a considerable depth. This last character is well displayed in Plate VI., fig. 5, and furnishes a ready solution of the difficulty of sometimes completely eradicating the disease in a chronic state. Often do we find a patient apparently recovered, and yet attacked after an interval, and in the same locality. The mycelium, as in the figure, may be traced along the hair follicle, breaking up into a series of spores as it approaches the orifice. If we wish to examine the fungus by itself, all that is required is to separate with a scalpel a small portion of the growth from the cutaneous surface, and soak it for a few seconds in liq. potassæ, or, better still, in acetic acid :* by these means, the parasite alone is preserved. With the aid of the microscope, it may be observed to consist of a number of tortuous tubes, branching many of them, at a right angle, and each maintaining, as nearly as possible, the same diameter throughout. They are not jointed, and their outlines are clear. Contained in their interior are numbers of small spherical bodies, which refract the light strongly, and are arranged in a single line, like a row of beads. The spores start or appear to germinate from

* Should the surface of the "patch" be perfectly smooth, it is sometimes difficult to detach the growth or to discern the fungus. When the epidermis peels off in flakes, it can generally be found.

the free extremities of the tubes. They also possess, in most cases, a secondary body, which, like its parent, is spherical. In some cases we find the spores, although distinct from each other, clustered together in masses of various sizes, surrounded on all sides by mycelium.

No better illustration is afforded of the distinctive features of one of the tinea class, in contradistinction to the rest, than by chloasma. Apart from its microscopical characters, which alone serve to separate this complaint, and are easy of recognition in almost any case not previously subjected to treatment, it may be added that in chloasma the hair is unaffected, or at least does not show that change of condition so well exemplified in tinea favosa, or tinea tonsdens, and which are equally the products of a vegetable growth. And lastly, pityriasis versicolor is not often contagious, and wholly absent in early life.

I should have mentioned before, that in the course of recovery from chloasma, it is not uncommon to find numerous oval or circular depressions on the surface. They are quite smooth and white, and occupy the seat of the former discolourations. They give rise to no inconvenience, and soon disappear.

Pityriasis
rubra.

In pityriasis *rubra* a number of small red spots arise, which by their junction form considerable patches, principally developed on the chest. It is generally the result of exposure to the rays of the sun; or, as Cazenave states, it may result from acute moral affection. Neligan remarks upon its resemblance to erythema, and being accompanied by much irritation and heat.

Pityriasis
nigricans.

Pityriasis *nigricans* is not often witnessed in this country. According to Cazenave several examples of it took place in Paris some years since. Sometimes the epidermis is

the seat of the discolouration ; and if it be detached, a red surface appears beneath. In other cases the cutis is the part affected, the epidermis retaining its natural colour.

The causes of pityriasis are obscure, and cannot often be traced with accuracy. In the young subject pityriasis capitis is occasionally attended by a partial falling off of the hair, but not to any extent; and as the general health improves, it becomes restored, and no permanent baldness is perceived. The complaint is sometimes seen in young women, who are subject to headaches. In some instances pityriasis versicolor would appear to be contagious; and cases are now and then met with, where more than one member of the same family has become affected with it, or in which it has attacked the wife as well as the husband. It is well, therefore, to be guarded in giving an opinion on the question of non-contagion in any single case of this kind, however remote the chances of its becoming so may be. My inquiries on this point have led me to conclude, that not more than one instance in ten, is thus contagious. In one patient, aged 17 years, who was admitted an out-patient of Mr. Startin's, February, 1864, I learned that her sister was likewise suffering from chloasma, and that their father had been attacked in a similar manner. In other examples of contagion, the complaint was apparently communicated from patients sleeping together. What the conditions are which determine the growth of the cryptogame it is not easy to decide. An accumulation of epithelium from successive secretions offers, to some extent, a favourable nidus for the fungus, which once deposited, increases rapidly, and in a circular form. It is probable that for this reason, the parasite is more frequent in those of the lower classes, who are not

Causes and
course.

Question of
contagion
in chloasma.

remarkable for cleanliness, or in patients with phthisis, and others, who are subject to an inordinate amount of perspiration. On the other hand, those who pay every attention to personal ablution do not always escape; and it is quite inexplicable, why one sex should be so much more liable to it.

Diagnosis. The *diagnosis* of pityriasis is not difficult. I have already said, that this disease approaches much in character to psoriasis, from which it may be distinguished by the farinaceous condition assumed by the cuticle, which is shed and renewed again with great rapidity. The patches of psoriasis are usually more or less raised, which is not the case in pityriasis. Some examples of eczema occurring in infancy, may be mistaken for this disease, when the colour of the skin is hardly changed and no vesicles are detected; but on closer examination, the thin crusts, or lamellæ, are more disc shaped, and are neither produced nor reproduced to the extent observed in dandriff. No error is likely to arise from confounding pityriasis with lichen, as the papular nature of the latter, added to its rough surface and its locality, will be enough to point out the difference between them. Vitiligo is a complaint, which, when occurring on the abdomen or chest, is most apt to be confounded with chloasma. The same mottled appearance is sometimes shown in either case, but in the latter we may scrape or rasp off the scurfy flakes, which under the microscope reveal the existence of a parasite, or minute circular spots at the margin of the patch may be discovered. This does not occur in vitiligo, which is, moreover, unaltered by friction.

Treatment. In pityriasis of the scalp, the patient should be directed to have the hair cut moderately short, to use a soft instead

of a hard brush, and to wash the head once or twice a week with the yolk of egg and warm water. At night the following liniment should be well rubbed into the roots of the hair:—nitric-oxyde of mercury, ten grains, glycerine, two to four drachms, and cerate, one ounce; or ammoniac-chloride of mercury, ten grains, and cerate, an ounce. The compound iron mixture of the London Pharmacopœia, or quinine with one of the mineral acids, may be given if the health require it. As a rule, after the age of puberty, arsenic will prove of value, either as the liq. potassæ arsenitis of the old, or the liq. sodæ arsenitis of the new Pharmacopœia; but in the latter case, the dose may be increased to five, instead of three minims. If the disease be dependent on syphilis, then, as in psoriasis, the bichloride of mercury may be given with the iodide of potassium. In general pityriasis, when the skin is dry, owing to some defect in its secreting structure, and perspiration takes place with difficulty, great benefit will be afforded from the use of glycerine, as mentioned by Mr. Startin in his Lectures,* or as a bath, by boiling two ounces each of glycerine and tragacanth in a pint of water, to be mixed with thirty gallons of the latter; or, as a lotion, one grain of the bichloride of mercury, half an ounce of glycerine, and three ounces of water. Should pityriasis attack the face, which it is disposed to do in young women, from exposure to cold winds, the patient may use with advantage the camphor ointment of the Skin Hospital Pharmacopœia—ten grains of camphor, ten minims of glycerine, and an ounce of ecrate; or, as recommended by Dr. Jenner, to apply a small quantity of zinc ointment before going in the open air, and at

* See *Medical Times and Gazette* for 1846.

the same time wear a Shetland veil to protect the face. When pityriasis surrounds the mouth, as in children, from constantly protruding the tongue, some olive oil or glycerine should be smeared over the part, and this habit, as far as possible, corrected.

However useful glycerine is in certain diseases of the skin, no benefit can arise from the use of the so-called "glycerine soap," which, from the small amount of glycerine it contains, is utterly valueless as a remedial agent.

Treatment
of chloasma.

In the treatment of pityriasis versicolor, our object is directed to get rid of the parasite, which may be accomplished by various means. Sulphur offers the readiest and most certain mode of effecting relief, and for this end, the sulphur vapour-bath should be administered once or twice a week, or even oftener, if the health allow. This remedy acts at first on the sporules, which it destroys, and afterwards on the mycelium; this being a more tedious process, on account of its deeper ramifications. The primary purpose of this agent is, therefore, to prevent any increase or multiplication of the numerous spores. Although sulphur will alone suffice, the patient should be recommended, in addition, to apply some form of mercurial ointment at night, such as the red ointment, of which I have spoken in a previous page; and either a weak nitric acid lotion in the day, or one of a drachm of borax, half an ounce of rectified spirits, three grains of the bichloride of mercury, and eight ounces of water. It is necessary that these remedies be continued until every vestige of the complaint is removed, otherwise a relapse is likely to occur. If a patient be so circumstanced, that the vapour bath is inadmissible, he should have recourse to the compound sulphur

ointment morning and evening; or a lotion of the hyposulphate of soda, in the proportion of half an ounce to seven ounces of water, with which the affected surface should be bathed two or three times in the course of the day. The external application of mercury, whether as an ointment or a lotion, will seldom fail to succeed. As regards internal remedies, when the patient perspires in excess, and is out of health, quinine, with the mineral acids, may be advantageously given; but in other cases the arsenite of potash will prove a more appropriate remedy, by its action on the skin. Although pityriasis versicolor is not, I believe, ever a truly syphilitic affection, we nevertheless sometimes find it co-existing with certain syphilitic eruptions, as psoriasis palmaris or plantaris. In such a complication, we should do well to treat the latter constitutionally, while at the same time we endeavour to reduce the parasitical disease by one of the preparations of mercury, rather than by sulphur.

CHAPTER IV.

ICTHYOSIS.

Ichthyosis. THE last of the squamous affections to be described is *ichthyosis*, a curious disease, when seen in well-marked examples. The name is derived from a fancied resemblance of its scales to those of a fish, being peculiarly disposed, like so many small squares; but instead of presenting an imbricated arrangement, more nearly approach those of a Saurian reptile. They are very thick, generally of a muddy or greenish, and sometimes of an almost black colour from exposure; they are especially developed in certain situations, as the knees, loins, and abdomen, and occasionally, in females, about the circumference of the nipple. The vicinity of the hips and ankles is more or less always involved. Little or no pain is experienced; and as the scales are detached, the surface is left of a whitish hue. A good illustration of ichthyosis is afforded in the following instance of S. B., a girl 14 years of age, admitted an in-patient at the Skin Hospital, October 8th, 1864, under Mr. Startin. The scales covered every part of the body, except the soles of the feet and the palms of the hands, where the skin was only rough; they were also absent on the ball of the thumb and the upper lip. Their greatest development was attained in such situations as the hips and elbows; but the neck, back, and outer side of the limbs, showed the complaint in a severe form. The large scales were

General characters.

irregularly fissured, and some of them curled at their margins. Thickest at the knees, they existed in large flakes on the abdomen and the thighs. The forearms, on either aspect, were covered with dark rectangular scales, which became circular or oval towards the wrist, and slightly depressed in their centre. Usually congenital, ichthyosis is never contagious; and in every case should be regarded rather as a malformation than a disease.

According to Simon and Rayer the scales are composed of hypertrophoid cuticle. In a case that was recently under treatment at the Skin Hospital, I was enabled, without difficulty, to collect a sufficient quantity for analysis, which Dr. Marcet kindly undertook. The results, he gave, are as follows :—

“The principal points of interest in my analysis are the large proportion of ash, insoluble in water, consisting mainly of lime, magnesia, and iron (91 per cent. of the whole ash is insoluble), and the absence of chlorides and phosphates. There is also a large quantity of fat present.

100 parts of the dry scales contain—

Organic matters,	{	Fat, soluble in æther,
91·45.	{	13·88.
Inorganic matters,	{	Soluble in water, 9 per cent.
8·55.	{	Insoluble in water, 91 per cent.

“Substances insoluble in water consist chiefly of lime and magnesia, apparently combined with organic matters, as the ash evolves carbonic acid when treated with hydrochloric acid. There is also some iron present.”

Comparing this with the previous analysis of the skin, the proportion of fat in the latter, 11·32, is not widely different from that found in the ichthyosis scales, 13·88 per cent. It is, however, in the inorganic or mineral matter that the distinction is most evident, being 1·63 per cent. in the one, compared with 8·55 per cent. of the other. From these results it would follow that ichthyosis

was something more than a mere excess of cuticle, being rather a special morbid growth.

Congenital
pityriasis
and ichthy-
osis.

Although the distinctive characters of ichthyosis are sufficiently apparent, there is another and more common form of the disease, termed *congenital pityriasis and ichthyosis*, which represents the intermediate grade or link between the *general* pityriasis alluded to in the last chapter, and ichthyosis in its perfect type. The scales are thinner, and more abundantly diffused and spread over the trunk and limbs than in true ichthyosis, although the transition between the latter and congenital pityriasis is frequently so gradual, that it is impossible to draw the line of demarcation absolutely between them. The complaint, of which I am now speaking, is invariably congenital; and as such, it differs from congenital psoriasis and lepra in not being developed, as far as I have seen, at the time of puberty, and in one instance only, was it delayed as late as the second dentition. The most usual period for its first manifestation is from the third to the sixth month, and seldom is it deferred beyond the first year. It commences generally on the scalp and face, sometimes on the loins, and extends from thence over the entire surface, and varies from one to two or more years before its development is completed. In some of the worst instances of its occurrence, it is associated from birth with a deficiency of the eyebrows and eyelashes, and in cases less pronounced, these may be but partially present. Although, at its origin, the face is commonly involved, the disease, in its progress, sometimes appears to forsake this part, and finally settles on the back, and front of the legs. The patient's garments or bed clothes, as in psoriasis inveterata, will be constantly covered with numerous scales, which are regenerated almost as soon

General
characters
and pro-
gress.

as shed. The whole skin feels unusually rough and thickened, not excepting the hands and feet; and one distinguishing element of the complaint to be often noted, consists in that absence of perspiration, which, in cases of severity, would seem to be complete, the skin retaining its dry character even in the hottest day. As might be anticipated, the condition of the patient in congenital pityriasis and ichthyosis is dependent, in no slight degree, upon the seasons—the disease being found to yield to the influence of warm weather, while, on the other hand, it is readily affected by the cold. In winter, or in a piercing wind, the patient is pretty sure to suffer, particularly on any surface exposed, as the hands and face, which become red and chapped; or, should he afterwards approach the fire, or become otherwise heated, the same parts tingle and smart. Sometimes the feet, around the heel, become fissured and painful, or the patient may experience much distress from the friction of the scales at the groin. It is stated that the subjects of ichthyosis are, more than others, predisposed to such complaints as inflammation of the lungs, or diarrhoea; but the evidence on this point, in a given number of cases, shows the supposed liability to be the exception rather than the rule; indeed, patients with ichthyosis possess quite an average share of good health, and it is yet a mooted point how far the disease may tend to shorten life.

In 35 cases of congenital pityriasis and ichthyosis which have come within my notice, 16 were to the male and 19 to the female—a result at variance with the conclusions of most continental writers, who remark upon the special frequency of ichthyosis in the male. Instances are not uncommon of congenital pityriasis and ichthyosis affecting both sexes in the same family, or leaving

Relative
frequency
between
the sexes.

one or more of the members untouched, while it invades the rest. I am acquainted with six sisters who one and all suffered from it; and I know another case, of a woman above 70 years of age, who was able to trace it in an unbroken line through *six* generations. Her mother suffered from it and also her grandmother. Of a family of five, including herself, there were two brothers and one sister attacked, and two perfectly free. She had three sons, and each of them had it, and six grandchildren—all girls—of whom one alone was unaffected by the complaint. This case furnishes one or two instructive points, for while it plainly establishes the influence of an hereditary taint transmitted directly through several generations; it denotes, at the same time, a disposition in the disease to exhaust itself or wear out. Thus, in the sixth from descent, I found the general surface of the skin, although drier than natural, yet capable, when called into action, of perspiring; while, in the generation preceding this, the perspiration was excited only from the hands and feet, and that in considerable excess. And I may further remark, that when the latter condition prevails, which it does sometimes in partial ichthyosis, the patient is happily exempted from that distressing "burning" sensation, which is the usual attendant on an obstruction of the glands concerned in the production of sweat.

Ichthyosis sometimes exists in the foetus, and in a most aggravated stage. The skin appears tightly stretched throughout: over the trunk and joints, it is ruptured in transverse or parallel lines. The eyes are fixed, in consequence of the rigid state of the lids; so likewise are the lips, which are converted into hardened bands, and expose the gums; and the ears are altogether wanting or rudimentary. The entire body presents an assem-

blage of lozenge-shaped spaces or intervals, caused by a separation of the fibres of the cutis, sufficiently numerous and distinct, to warrant the appellation of a "Harlequin" ^{quin} ~~fœtus~~ fœtus, which is assigned to it. The only museum in London, not excepting that of the College of Surgeons, in the possession of this class of cases, is Guy's, which contains four specimens of this singular deformity of the skin. It is a subject of regret that no history is attached to them. One was given by Mr. Scarr, of Bishop's Stortford, who was kind enough to inform me, in reply to my inquiry, that the mother's labour was natural, and the fœtus lived for some seconds after its birth. Although the mother had had several children, this was the only one that exhibited any indication of ichthyosis, and in no member of the family could any hereditary trace of it be obtained. By the parent, the complaint was attributed to a sudden alarm she received, while attending a country fair at the time of her quickening. Nor is this a solitary example of fright being accepted by the mother, as the cause of malformation of her offspring. I have met with several such instances, and it was not long since that I had the opportunity to question the mother of a boy 18 months old, who was the subject of congenital pityriasis and ichthyosis. She showed no symptom of the disease herself, nor was it hereditary either on her side or her husband's. She said that when pregnant with this child, she experienced a severe fright, which caused her to swoon away.

To show how nearly congenital pityriasis and true ichthyosis approach one another, we sometimes find all the characteristics of the latter in one situation only, as the knees, over the patellæ, for example; while the rest of the lower extremities is more or less covered with fine scales.

Close
affinity
between
congenital
pityriasis
and true
ichthyosis.

The other parts of the body, and particularly the face and hands, resemble those in ordinary health; but notwithstanding this state, the entire cutaneous surface is sometimes wholly inactive as regards perspiration.

Partial
ichthyosis.

There is a kind of ichthyosis called *partial* ichthyosis, from its being limited to a single region. In other respects, it presents the ordinary characters of this complaint. I had lately an opportunity of seeing a marked case of this sort in a young lady, about nine years of age, in whom the disease occupied the palms of the hands and the soles of the feet; the skin elsewhere being quite natural. She was the second of four children, and had been troubled with it, since she was four months old. Her father was similarly affected on his hands, but not so severely, and the rest of the family were entirely exempt. The case was one in the private practice of Mr. Startin, to whom I am indebted for pointing out to me this peculiar and most rare variety.

Ichthyosis of
the tongue.

Mr. Hulke has recorded a case of ichthyosis of the tongue in a man, a patient at the Middlesex Hospital, who had had it upwards of 14 years. It differed from a corn in its tendency to increase at its margin. The treatment consisted in pairing at intervals, as much of the upper part of the growth as could be removed without injury to the tongue.

Condition
of the urine
in ichthyosis.

The total arrest of all sensible perspiration in ichthyosis, and its partial secretion only in some of the modified forms of the complaint, offer an interesting subject for investigation with respect to the state of the urine. A more extended series of experiments is, indeed, required to complete this part of my subject; but there can be little doubt, that in these affections an increased demand is made upon the kidneys, shown by a great excess

in the quantity of urine; which is, moreover, of a low specific gravity, and usually of the palest yellow colour. Its reaction is but slightly acid, and this may account for its rapidly becoming neutral or alkaline, when kept for even a few hours. These characteristics were well exhibited in two cases of congenital pityriasis and ichthyosis, wherein I carefully determined the amount of urine passed in 24 hours, for several days in succession. In a third and excellent example of ichthyosis, the subject was a boy aged 11 years, height 52 inches, weight 57½ lbs., brother to the girl whose case is mentioned at the beginning of the present chapter. He came under the care of Mr. Henry Lee, in St. George's Hospital, suffering from a small psoas abscess, consequent on angular curvature of the spine. The scales were numerous, and entirely enveloped the trunk. On the head the hair was scanty, thin, and in several places altogether deficient. Not only was every portion of the face, neck, and scalp thus invaded, but the same morbid state extended along the external auditory meatus. The lobe of each ear was malformed, being attached to the corresponding cheek of which it formed a part. The upper eyelashes were wanting, and the red mucous membrane of the lids constituted a thick circular fold, which, in the lower, caused the tears to overflow. The upper lip was retracted, and the gums and teeth left unprotected. Exactly the same condition as on the trunk applied to the upper and lower extremities—in the former, reaching almost to the wrist, and in the latter, leaving only the soles actually free from scales. There were 11 children in the family, of whom five were affected with ichthyosis, viz., two girls and three boys. The two younger children and the three elder, equally with the parents, showed no appearance of

the disease, which in this instance could not be traced to a preceding generation or a collateral branch. He was in otherwise good health, and enjoyed his food, which consisted of ordinary diet, with a pint of porter daily. The only medicine that he took was a tea-spoonful of cod-liver oil twice a day. The case being a typical one, I made the following analysis of the urine:—

	Quantity in 24 hours, in cc.	Specific Gravity.	Urea in 100 cc.	Total Urea in 24 hours.	Sul. Acid in 100 cc.	Total Sul. Acid in 24 hours.	Phos. Acid in 100 cc.	Total Phos. Acid in 24 hours.
1866. April				Gramma.		Gramma.		
9th—10th	1,230	1015·8	1·7	20·91	·109	1·34	..	..
10th—11th	1,170	1017·2	1·8	21·06	·127	1·48	..	..
11th—12th	1,070	1016·0	1·8	19·26	·109	1·16	·14	1·498
12th—13th	950	1017·2	2·0	19·00	·15	1·65	·17	1·615
13th—14th	1,380	1010·8	1·5	19·32	·085	1·18	·09	1·242
16th—17th	1,340	1013·4	1·5	20·1	·14	1·87	·14	1·876
17th—18th	1,340	1013·8	1·6	21·4	·09	1·20	·14	1·876
18th—19th	1,600	1013·2	No analysis.		·101	1·62	·12	1·92

Which, computed for eight days, gives the following daily average:—

Quantity in 24 hours.	Specific Gravity.	Urea in 100 cc.	Total Urea in 24 hours.	Sul. Acid in 100 cc.	Total Sul. Acid in 24 hours.	Phos. Acid in 100 cc.	Total Phos. Acid in 24 hours.
1,260	1014·7	1·7	20·8	·114	1·44	·13	1·671

If these results be compared with the undermentioned analyses, in which the urine was examined for not less than six days (and as regards quantity in (a) and (b) for fourteen), it will be found that in—

	Quantity in 24 hours, in cc.	Specific Gravity.	Urea in 100 cc.	Total Urea in 24 hours.	Sul. Acid in 100 cc.	Total Sul. Acid in 24 hours.	Phos. Acid in 100 cc.	Total Phos. in 24 hours.
(a)	421	1024·4	3·4	Grammes. 15·4	·204	Grammes. ·871	·13	·524
(b)	575	1027·0	3·9	22·2	·248	1·34	·22	1·248
(c)	628	1022·2	3·2	19·7	·192	1·137	·24	1·487

These cases (*a*, *b*, and *c*) refer to convalescent patients, of nearly the same age, viz., 10 years each; their respective heights being 46, 48, and 48½ inches; and their weights, 48½, 50, and 49 lbs. Although confined to the wards of the Hospital for Sick Children, under my friend Mr. Holmes, they were at the time of examination in good health, while the care employed in collecting the urine was such as to leave nothing wanting in this respect. The diet was "meat" and cocoa; no medicines were given.

The chief noticeable point in the ichthyosis example, after allowing for a proportional difference in age, weight, and height, is the large increase in the actual bulk of urine, being considerably more than twice as much as that passed by (*a*) and (*b*), and nearly double that of (*c*). The specific gravity, determined on each occasion by weight, is also, in a corresponding manner, low. Notwithstanding the small rate per cent. of urea, the absolute amount in 24 hours is little altered in ichthyosis; and this is somewhat remarkable, when we consider that the skin, as a secreting organ, is reduced to the lowest possible limits, in the disease. This fact militates against the usually received theory of the elimination by the skin of urea. In determining the latter substance, as well as the phosphoric acid, I have adopted the volumetrical method, where 1 cc. = .01 of urea, and a similar equation applies to PO_5 . The sulphuric acid has been obtained in every case by the more tedious but safer process of precipitating by baryta, and finally by weight: it is hardly if at all affected, or phosphoric acid, by ichthyosis. No hippuric acid crystals were detected by examination with the microscope.*

* Schlosberger is said to have demonstrated the presence of hippuric acid in the scales of ichthyosis (Neubauer on the *Urine*, p. 34). None, however, could be discovered in the above case of ichthyosis after a most careful analysis by Dr. Marcet.

Prognosis. The prognosis of ichthyosis, in its several varieties, is unfavourable as regards complete relief; but the complaint is one which is nevertheless greatly amenable to treatment. After a time the skin becomes clear, the scales are no longer renewed—a source of no slight satisfaction to the patient. The original malformation, however, in any case remains, and with it a tendency to the return of the disease, which may be invoked by many causes, such as exposure to atmospheric changes, or the neglect of precautionary measures; and it is to the nonfulfilment of the required conditions, in so far as they relate to the general health and the state of the skin, that a relapse is in most instances attributable. No benefit can accrue from the internal exhibition of mercury, and arsenic will seldom be needed. The local treatment should be conducted on the principle of compensating in some way for that deficiency in the secreting power of the skin, which is so signally shown in ichthyosis. For this object, glycerine, as a bath, is very serviceable; it removes the dryness of the skin, and renders it soft and supple. Formerly regarded as a waste product, and hence obtained at an almost nominal sum, it has now become a therapeutical agent of acknowledged efficacy in the treatment of all squamous affections. Its introduction we owe to Mr. Startin, who recognised its value as long ago as 1844, and since that period it has more than quadrupled in cost. When, however, from its high price, a sufficient quantity for a bath is not procurable, it will be enough for the patient, after taking an ordinary warm bath, to sponge the whole surface with from one to two quarts of tepid water, containing two or three ounces of glycerine; or take a warm bath, prepared in the usual mode, with a pound or more of linseed,

Treatment of ichthyosis.

made into a mucilage by boiling, and mixed with it; or an alkaline bath, of sufficient heat to be agreeable, in which the patient may remain for twenty minutes or half-an-hour, and when quitting it, while the body is still wet, a few drachms of pure glycerine should be well rubbed into the skin before drying with a towel; used in this manner, glycerine loses much of its greasy quality, and the skin is left pliable for some hours. Before retiring to bed, the patient should be advised to apply an ointment, similar to that named in a preceding page, and consisting chiefly of camphor. During the day a lotion of borax will prove of benefit; or one of dilute nitric acid, in the proportion of half a drachm to seven ounces of water, with half an ounce of glycerine; or we may use one of dilute acetic acid. The general health should be supported by tonics, especially those of the ferruginous kind; and if the complaint is unusually obstinate, small doses of arsenic may be afterwards added; above all is required a sufficient quantity of animal food daily. The internal administration of pitch is highly extolled by Elliotson, but in other hands it has wholly failed. As an ointment, Neligan makes favourable mention of the iodide of potassium—a drachm to an ounce of hard, which he directs to be well rubbed into the affected surface morning and evening.

Among the complications of congenital pityriasis and ichthyosis, none are more common than eczema, and particularly in early life. At a later period, I have sometimes seen it co-existing with rupia.

There is yet another variety of ichthyosis, as intractable ^{Ichthyosis} as it is infrequent, which remains for description—^{cornea.} ichthyosis *cornea*. As a general disease I have never seen it. The following is an abridged account,

derived from Mr. Startin's Lectures :—The complaint in question is characterised by a hard and horny state of the integument, emanating at first from a single spot, and at last invading the entire frame. Little change may be perceptible to the eye, but a feeling of preternatural rigidity is experienced by the hand on touching the surface ; the rigidity has its seat in the subcutaneous tissue rather than in the skin itself. The course of this affection is rapid from bad to worse. The limbs become contracted, and the trunk encased in a horny covering, rendering any attempt at motion impossible. In the case recorded by Mr. Startin, which is also that to which Alibert refers, its hereditary nature was unproved. As an example of its partial occurrence I may narrate the following :—T. B., aged 26 years, by trade a smith, and exposed to much heat, came to the Skin Hospital an out-patient, May 26th, 1862. On the palmar aspect of both hands, including the fingers, were a great number of hard, dense, horny, and parallel ridges, like so many severe corns. Others of a like kind were conspicuous on the dorsal surface of the feet, and above the heels. They had existed as long as the patient could remember, and he dreaded, from the subsequent pain, to put his hands into warm water. The complaint was clearly hereditary ; his mother, and also a sister and brother, having been severally attacked, but not to the same degree. In such an extreme case it was impossible to afford him much relief, so long as he continued his employment ; and I only allude to it, as one of those rare instances of the disease, which concludes the list of the squamous class.

CHAPTER V.

LICHEN.

THE distinctive characters of the papular eruptions, first ^{General characters.} recognised and classified by Willan, have been acknowledged by most subsequent writers on diseases of the skin. They comprise *lichen* and *prurigo*; and include, under the former, *strophulus* or gum-rash.

As a rule, the papular eruptions are characterised by pruritus, and by an elevated state of the papules of the skin, which undergo no further change. They are devoid of any kind of moisture, and in no way contagious.

Several varieties are assigned to lichen, which, as an ^{Varieties.} ordinary eruption, is met with in a simple or in a chronic state; the terms lichen simplex and lichen agrius being employed respectively to designate these two classes. The other, but less common, forms of lichen, as lichen tropicus, lichen urticatus, lichen circumscriptus, lichen pilaris, and lichen lividus, may be said to depend rather for their nomenclature upon some such causes as situation, colour, or climate. Two kinds described by Hebra remain to be mentioned, lichen scrofulosus and lichen ruber.

Lichen is generally characterised by successive deve- ^{Course.} lopments of fresh papules, although Duparc and Alibert relate instances of the eruption being simultaneous and complete. It spreads gradually, but not often by con-

tinuity of surface. Thus originating in the lower, it may then proceed to the upper extremities, and afterwards appear on the chest and loins, or *vice versa*; or, on the other hand, it may be quite local. The pimples of lichen are solid and firm, seldom larger than a millet-seed, and the intermediate tissue is of its natural colour; but in the chronic stage of lichen, it is disposed to become thickened, and hypertrophied, and of a darker or yellowish-brown tint.

Lichen most frequently occurs in early or adult life; and men are more liable to it than women. Rayer speaks of lichen as being now and then hereditary, and Devergie lends his authority in support of this statement; but its rarity as an hereditary complaint, properly so called, may be inferred from the latter author, who, notwithstanding his large experience, has been able to record it in only 10 cases. Without entering into further discussion on this point, it may nevertheless be affirmed, that some individuals are much predisposed to it, and in them the disease is both obstinate and very liable to relapse.

Pruritus.

There is no one character more constant in the papular eruptions than pruritus; and although this may vary in degree in different cases, yet, where it has been excessive, it will often linger after the eruption has entirely disappeared. Sometimes it assumes a periodic or an intermittent form, recurring at regular intervals; or, what more frequently happens, it returns on the least error in diet, or from exposure or excitement. The amount of pruritus bears, however, no proportion to the number or development of the papules.

Causes.

Since there is hardly any period of life at which lichen may not occur, its causes are numerous. Whatever tends to accelerate the capillary circulation may be

ranked as a predisposing agent. Cases of this kind, which are so common in the South of Europe, and still more in the East, under the name of "prickly heat," are entirely due to a high range of temperature; or lichen may result from artificial causes, and is a frequent complaint in persons exposed to alternations of heat and cold, particularly if dust or any similar irritant be present. It will sometimes appear on the legs from the friction occasioned by the use of worsted stockings, or on the forehead from the pressure of a tight hat. Severe mental emotion has also been known to give rise to it.

The papular eruptions will sometimes co-exist with *Diagnosis.* other diseases of the skin, as scabies, eczema, and impetigo, and in debilitated subjects with ecthyma; or may succeed to them. It is not unfrequent to find in some hereditary affection, as in any of the squamous order, one member of a family the subject of psoriasis, another of lichen; and the difficulty of diagnosis is greatly increased, when papular eruptions are thus complicated. It is important, however, to reflect, that lichen itself contains no vesicles, nor do its papules acquire a pustular character—conditions which are constantly observed in eczema and scabies; and, moreover, the outer aspect of the limbs and the back are the localities generally selected by papular diseases. Certain cases of chronic lepra may resemble lichen circumscriptus: but the more or less raised circumference of lepra, and its freedom, in most cases, from itching, will seldom fail to enable us to distinguish between them.

Lichen commonly terminates in resolution, with or without cuticular desquamation. In some exceptional

cases, superficial ulcerations follow, and are tedious in healing.

Strophulus. *Varieties of Lichen.*—*Strophulus* is a disease of infancy, and occurs shortly after birth, or about the period of dentition. In some cases, the eruption is of a vivid red colour, interspersed with erythematous patches; or it approaches the natural colour of the skin; or, what is rare, the papules are perfectly white. This last variety has been called lichen *albicans*; while, to the first, has been given the name of lichen *intertinctus*. These varieties of *strophulus*, which may be intermingled one with the other, are generally to be found on the face, neck, and hands; or they may spread from these parts to the trunk. *Strophulus* is a trivial complaint, unattended by danger, and seldom lasts beyond a few days. *Lichen simplex* is also a mild form of the disease; and runs an average course of three or four weeks. Some febrile disturbance occasionally accompanies it. The eruption is indicated by a number of small red pimples, occupying a like situation to the last, followed by a sensation of itching and tingling. After some days, the pimples fade, or are succeeded by a new crop, and sometimes by a slight desquamation.

L. agrius. *Lichen agrius* is of a severer, as well as a more chronic kind than the last, to which it sometimes succeeds; or it may commence as an original affection. I shall take it as the type of the rest. The eruption consists of small florid conical pimples, irregularly scattered over the face, back, or outer aspect of the extremities. To the touch, the pimples are hard, scarcely exceeding a pin's head in size, and mostly distinct. They may be found either in clusters, or more widely distributed over the body. On passing the hand over the part, a peculiar rough sensa-

tion is perceived, which has been not inaptly compared to that of a nutmeg-grater. When on the face, the integument is usually more or less swollen, with considerable disfigurement. It is seldom that any constitutional disturbance ushers in an attack, and the general health remains unaffected. The pruritus is often so great, that the patient cannot refrain from scratching; and hence are to be seen small dark crusts of dry blood on the summits of the papules, or a slight serous fluid exudes from their forcible abrasion; or this may form small thin crusts, and at first sight might be mistaken for eczema. The complaint is very variable in its duration, and likely to become protracted in those who have previously suffered from its effects.

Lichen will sometimes appear in children in the shape of large irregular patches, generally on the limbs, but leaving free the feet and hands. The colour is that of a perfect red, which vanishes for the moment under pressure. The surface is nearly smooth, but we may discover, near the edge of some portion of the patch, a quantity of small scattered papules. The latter, which show the eruption in an early stage, will also be found in other parts, where the disease is beginning to spread. A slight exfoliation of the cuticle is also usually seen on the larger patches. In early life a species of lichen, only of a lighter kind and perfectly devoid of redness, will be occasionally developed on those parts which are exposed to the sun, as the face, particularly the forehead and cheeks, and is accompanied by considerable pruritus.

Lichen tropicus, or "prickly heat," is common in most *L. tropicus*. warm countries. Indeed, few who have resided any length of time in tropical climates, escape from this

annoying complaint. It generally shows itself as the hot season sets in, and continues with greater or less interruption until the approach of the rains, or the advent of cooler weather. The chest, back, and extremities, are attacked together or successively; the eruption does not differ from that observed in lichen agrius, and sometimes is scarcely apparent. It is always increased by eating, and generally becomes aggravated towards night. A cold bath may afford temporary relief; but the itching soon returns, without abatement. The eruption is less felt in the morning than at any other period of the day; and sometimes vanishes altogether for a time. It is most severe where the extreme of heat is found. It fell to my lot to witness many instances of this kind of lichen, when doing duty as an assistant-surgeon in Upper Scinde, and on board one of the late Hon. East India Company's vessels of war in the Red Sea and Persian Gulf—climates amongst the hottest in the globe. "Prickly heat," it may be added, occurs at that time of the year when sickness is least prevalent, and is usually associated with excellent health. The supposed danger of repelling suddenly the eruption by plunging into cold water, has no existence. Sailors, of all classes of men, from their habits, or the exposure to which they are frequently subjected, as when engaged on survey duty, are most liable to "prickly heat"; and yet they continually bathe in the sea in this state, without any ill consequences resulting therefrom.

L. urticatus. *Lichen urticatus* is frequently found in children during the warm weather. Sometimes it occurs at a later age, particularly where the skin is fair. It is distinguished from ordinary lichen by the addition of certain elevations on the surface, which appear exactly as if the

patient had been stung by a nettle or an insect. They appear generally in the evening, when the irritation is greatest, and disappear or become pale in the early morn. Their origin is successive, and as they vanish, no further trace of them is left. Such is the ordinary course of lichen urticatus, which is generally a very obstinate complaint. I have, however, seen other examples, in which, among the early symptoms, may be noticed a number of red spots, distinct, hard, and raised at their centre. In circumference they equal, on the average, a threepenny piece. They may occur in any region, and generally attain their greatest size on the trunk. In the course of a few hours there is developed towards the centre of these spots a whitish elevation, similar to that just described; and it often contains a watery secretion, proved by pricking it with a needle. Owing to the thickness of its walls, it seldom bursts like the vesicles of herpes or eczema. Sometimes the redness, which is always more marked at night, but abates towards morning, leaves the elevations without any discoloured margin, and in favourable examples the complaint disappears altogether; but this is not its customary termination; more frequently it subsides only to recur. The eruption is much disposed to lapse into a chronic state, and successive crops of lichen, interspersed with this peculiar condition of the skin, will finally spread over the entire frame. Should it continue, we sometimes find the most prominent part of the elevations assume a pustular character; and these, when situated on the scalp, resemble impetigo in no slight degree. On the hands and soles of the feet, they bear a great similitude to scabies; but the former disease I have never observed, except in early life, and it is not contagious.

L. pilaria. *Lichen pilaris*, so called from its implicating the hairs, which pierce the papules in their centre, is a rare variety. The hair-follicle becomes filled with epithelium and its debris, and a number of small acuminate papulæ are observed, having each on its apex a single hair. It is chiefly developed on those parts which are covered with soft fine hair, as the neck or chest. I had the opportunity of seeing, some months ago, a remarkable instance of this kind among the out-patients at the Skin Hospital, in a boy, in whom the disease was mostly seen on the back of the neck, and appeared not unlike the small rough eminences on the surface of an echinus. In this case, the loins and shoulders were also covered with lichen in its ordinary form.

L. lividus. *Lichen lividus*, like the preceding, is also uncommon. Mr. Startin has noticed it about once in 1,800 cases, and Rayer relates having only seen it twice. It is almost always united with broken-down or feeble health, and is generally seated on the extremities. The spots are of a purple colour, intermingled with petechiæ.

L. circumscriptus. *Lichen circumscriptus* is the name given to the disease when it forms a circumscribed patch, having a defined border, or is represented by several small patches. It is not infrequent on the hands, or the popliteal space, or the nape of the neck. Its colour is usually of a dark red. In some instances, it is prolonged for years by the outbreak of fresh patches, which, like those of lepra, enlarge at the expense of their circumference, and decline at the centre. As an example of its truly chronic nature, I may quote the case of C. B., a tailor, aged 60, in whom the disease had existed as a patch on the back of the neck, and of the size of the palm of the hand, for 12 years. The papules were large, closely aggregated,

and of a purplish red colour. It caused much irritation, if he became heated.

Lichen is in many instances the result of syphilis, ^{L. syphilitic.} congenital or acquired. In the former class we frequently meet with it in infants, as an eruption scattered over the greater part of the body, and particularly present about the genital organs. In other localities the papules are large, flat, and smooth, and might be confounded with herpes, except that they want the true vesicular element of the latter. Further signs of constitutional syphilis are mostly present, and at this age the irritation is very great. Syphilitic lichen in older patients offers in general a different set of symptoms. Thus the papules present a coppery colour, and there is an absence of irritation, or at least it is not severe. The tendency of the eruption is oftentimes to become tubercular; and in addition to, or in place of its more usual situations, syphilitic lichen is frequently observed on the forehead, and not seldom on the soles of the feet. The tongue is also sometimes fissured, and what may commonly be seen characteristic of this variety, are a number of small pits or cicatrices, in most cases on the face only, the consequence of ulceration following the eruption, not unlike those produced by variola. Syphilitic lichen, like other diseases of the skin dependent upon syphilis, can scarcely be said to have any special character, so much does it deviate from the real type of the original complaint.

The treatment of simple lichen may be summed up in ^{Treatment.} a few words. The same will also apply to tropical or any less severe kind of lichen. It consists in proper attention to the bowels, and in the avoidance of any exciting cause. In early life, it is too often the practice of the mother to cram the child with milk or indigestible

food, or to overload it with clothes. Flannel will sometimes irritate the skin, and so even will soap; or the child may be insufficiently dried after washing. I need not enter into further detail, or suggest the obvious mode of dealing with these cases. As far as the medical treatment is concerned, it will be enough to administer a few grains of rhubarb and soda in the first instance, to be followed by a light tonic. When lichen occurs in the acute stage, the use of purgatives, as the sulphate and carbonate of magnesia should be used; and, as an external application, either goulard lotion, or one of a weak solution of creosote and the bichloride of mercury; one grain of the latter to an ounce of water. The lotio carbonis is also of considerable benefit in these cases. After the irritation has subsided—or, in chronic lichen, as lichen agrius, small doses of mercury should be given; and indeed, in the greater number of papular complaints, this mineral will generally be required.

In the lichen urticatus of children, the same means may be adopted, regard being had to the age. Thus, to a patient of three years old, the carbon lotion should be diluted with an equal amount of water, and the mercury diminished by two-thirds for a dose. When the eruption is confined to a few spots, or takes place in a weakly subject, quinine or iron may be prescribed with advantage; the local treatment to remain the same. The hydrochlorate of ammonia, used externally, in the proportion of one scruple of the powder to an ounce of cerate, is a remedy from which in this variety of lichen great benefit is derived. Its influence in lessening irritation is frequently very apparent. As an ointment in the above form, it should be applied morning and evening. Provided proper attention be given, the same remedy

may be employed as a lotion; but in this case, it is necessary that the affected surface be constantly covered with a wetted rag, without the addition of oiled silk, which only heats the part. The tincture of aconite, in certain cases, is highly spoken of by Neligan; and, as a local measure, he recommends conium, in the following form:—one drachm of succus conii, half a drachm of glycerine, and a grain of soda, to an ounce of elder-flower water.

Baths are highly serviceable in the papular eruptions; Baths. they lessen the irritability so frequent in this class of diseases. The patient should, however, be warned not to use them at too high a temperature; indeed, in all cases, a tepid bath is to be preferred at the commencement; and, when he becomes accustomed to its use, he may remain in it for a longer period than at first. If the irritation be very great, and in the later stages of the disease, when the skin is still rough and dry, a starch or gelatinous bath will often afford considerable comfort. An alkaline bath is occasionally beneficial; and, in confirmed cases, the sulphur springs of St. Sauveur, Louesche, or Aix-la-Chapelle, may be tried.

Two varieties of lichen specially mentioned by Hebra, *L. scrofu-* and described by him with much precision and minute-*losus.* ness, now claim our attention. The first, or *lichen scrofulosus*, is a constant companion of caries, lupus, and tuberculosis. It is characterised by pimples of the size of ordinary lichen, and of the same colour as the epidermis, or pale yellow, or brownish red. Some degree of desquamation is often met with in this variety, which, as it is unaccompanied by pruritus, does not, therefore, show the little scabs of dry blood produced by excoriation. The papules, in short, remain unaltered.

Unlike any other species of lichen, this variety is mostly seen on the trunk, abdomen, breast, and loins, and seldom on the extremities. In progress, it is very slow, and generally remains unheeded by the patient until the disease reaches the limbs or the face; or unless other symptoms occur in the papules, as their attaining the size of a lentil, and assuming a bluish red colour; or containing, like acne, a small quantity of pus; or drying up, leaving a circular dark stain. The skin between the papules is generally scurfy, or covered with incipient scabs like bran, and dull-looking.

The disease is always connected with enlargement of the lymphatic glands. Hebra states it to be peculiar to the male sex. Not one instance does he record of its affecting the female; nor, in so far as his observations extend, is the complaint influenced by season or occupation.

L. ruber.

Still more remarkable in its symptoms, progress, and termination, is *lichen ruber*, noticed, I believe, by Hebra alone, and distinguished, whence the name, by the dark red colour of its papules. Observing throughout their course the usual size, the papules are at first scattered or separated, and covered with small thin scales, which cause slight itching, but not sufficient to lead to excoriation or scabbing. The intervals left unoccupied by the former pimples are soon dotted with a new group; and, as these become more thickly developed, large red plots are seen covered, as I have just said, with numerous fine scales. The movements of the muscles become considerably impeded, particularly those of the hands and feet. The fingers are kept in a semiflexed position, and present painful cracks. The nails generally may also suffer. They are thickened, do not reach their

usual length, and are apt to break. In colour, they approach a yellowish brown.

The course of lichen ruber is progressively bad in the greater number of instances. As the disease advances, which it generally does, the patient becomes emaciated, and at length falls into a state of marasmus, and dies. Fourteen cases form the entire number mentioned by Hebra, one of which occurred in a woman; and in one instance only was the disease arrested.

In the treatment of *scrofulous lichen*, which appears between the ages of 15 and 25 years, cod-liver oil has proved an excellent agent, and the only one recommended by Hebra. It should be given, however, in half-ounce doses twice a day, for a less quantity proves of no benefit. He also advises its external application, and directs that the patient should also wear flannel or woollen clothes. For the relief of *red lichen*, Hebra places most reliance on arsenic. The reader is referred, for further information, to Hebra's article in Virchow's *Handbuch der Speciellen Pathologie und Therapie*, Bd. iii., Lief 2.

CHAPTER VI.

PRURIGO.

General characters of prurigo. THE remarks made in the last chapter on the subject of lichen, will so nearly apply to *prurigo*, that I have little to add to it of importance. Bearing in mind the papular origin of this affection and its attendant itching; the frequent existence of numerous minute crusts of dried blood on the surface, and its non-contagious element; we shall have little difficulty in determining the true nature of the disease. It should be remembered, that while other disorders of the skin are distinguished by some abnormal state of structure, there is this peculiarity in prurigo, that the skin often exhibits no apparent change of any kind; and the complaint is rendered conspicuous by the absence, rather than by the presence of any morbid phenomena, that the closest scrutiny can detect.

The papules of prurigo are scattered, isolated and discreet, with no disposition to regularity. Their development is generally slow and successive, although instances to the contrary, as in lichen, are mentioned by Duparc. They are generally described as larger and flatter than those of lichen; but such a statement is not strictly correct. Certain it is they are often minute, and frequently absent altogether.

Situation. The situation of this eruption is similar to that of lichen. Sometimes it will extend over the entire body, although attacking mainly the loins, and the limbs along

their outer aspect. Even when general, it usually leaves free the hands, feet, and face; and in many instances, although apparent enough elsewhere, does not reach beyond the elbows or below the knees; and is limited at the upper part of the neck. Cases, however, are mentioned by Mr. Startin in which prurigo has been so entire, that the scalp, nose, and ears have not escaped.

The pruritus, characteristic of prurigo, is liable to Pruritus. remissions, which observe no regularity in the order of their occurrence; it may and frequently does disappear for several hours, or even days. Often a relapse is induced by mental anxiety, or an error in some article of food; and is intensified by friction of the skin. It is when the patient is warm, particularly at night, that the paroxysm of itching is most felt, and he thus becomes deprived of sufficient sleep. To mitigate the irritation, he is unable to refrain from scratching himself, and hence the red linear markings and little dark scabs of blood, so diagnostic of the disease, and which are produced by the apices of the papules becoming abraded. After the complaint has subsided, there still remains, in many cases, a disposition to pruritus, which only gradually disappears.

Prurigo often exists with some other complaint of the skin, such as lichen; eczema; or scabies; and sometimes with urticaria or psoriasis. From lichen it differs in being less of a papular affection, and in its greater immunity from constitutional disturbance. Moreover, lichen is generally found at a much earlier age, and Lich. urticatus is a disease entirely separate from prurigo. The diagnosis between it and eczema rests on the exemption of prurigo from vesicles or pustules: and in the final stage of eczema, when dry scales alone

Complica-
tions of
prurigo.

remain, they are produced in larger quantity: in prurigo a slight desquamation may appear, but this is the result rather of the subjection of the skin to rough usage. Chronic urticaria resembles prurigo, when the latter is destitute of papules, but in urticaria the complaint occurs either as white elevations or swellings, as if the part had been stung by a nettle; or else, if these elevations have vanished, and the finger-nail be passed in a longitudinal direction along the surface, a well-marked wheal immediately will rise in its track. Prurigo sometimes bears a considerable resemblance to scabies, but the former is neither contagious, nor does it commonly involve the fingers or the toes, or vanish at one period to return at another.

One more feature remains to be mentioned in connexion with prurigo, which is, its occasional tendency to become developed on the surface, which has lately been the seat of some eruption. In such instances there is, no doubt, a latent disposition to the disease, which only requires a certain stimulus to evoke; and this remark applies to other cutaneous complaints besides that under present consideration. The most aggravated case of prurigo I have ever beheld was exhibited in a man, of middle age, an out-patient, who from time to time presented himself at the Skin Hospital, which he attended for years. He first contracted scabies, of which he was soon relieved, but it left in its train prurigo, which was scarcely benefited by any treatment.

Prurigo affects mostly the young and the aged, and comprises three varieties, *P. simplex* or *mitis*, *P. formicans*, and *P. senilis*.

Prurigo simplex.

Prurigo simplex displays no signs of papules. The patient complains of itching all over, but nothing can

be detected to account for or explain it. The skin retains its natural whiteness and colour, and the health is otherwise undisturbed. Children are sometimes as early as the eighth or ninth year attacked, but seldom before this age. Warmth increases the pruritus. In *prurigo mitis*, the next in severity, and generally a complaint of youth, the patches are small, and either of a red tint or the natural colour of the skin.

From a supposed similarity to the sensation produced by ants creeping over the skin is derived the name of *Prurigo formicans*. The difficulty of describing a sensation has passed into a proverb; but that the itching in this variety is extreme, admits of no refutation. As in other kinds of prurigo, it is intensified at night or towards the early morning; and to it all subsequent phenomena are due. So violent is the pruritus at this period, that the limbs are kept in a state of tension, and show the superficial muscles in relief; while the patient is often glad to purchase a respite at the cost of exposing the surface to cold. As long as he can divest his mind of any subject bearing upon his complaint, he may enjoy an interval of rest; but when this is no longer attainable, the papules become torn by scratching, and betray too evident marks of the finger nails. The surrounding skin, which was previously healthy, at length participates with the rest. It loses its natural smoothness, becomes hard to the touch, and is of a darker tint than natural.

Prurigo senilis is a disease of advanced life, but not unfrequently shows itself before the age of 60. Sometimes the papules are visible as in the last variety, and then there is no difficulty in determining the complaint, which may be often and at once recognised in the aged by a peculiar expression of distress that the countenance

of the patient exhibits. Over the region of the scapula and the upper extremities the itching is usually severe. Generally it spares the hands, face, and the lower extremities below the knee. It is very apt to lapse into a chronic state. The skin becomes thickened and dry, showing often a scurfy desquamation. Among the lower classes, pediculi often abound in prurigo senilis; and so constant a symptom was this regarded by Alibert, that he considered them as actually engendered by it. Such, however, is not the case. No form of prurigo is, in any way, dependent on pediculi, although their presence may greatly aggravate its symptoms.*

Local
prurigo.

Besides the above divisions, prurigo is sometimes purely local, as in *P. genitalium* and *P. podicis*. When it affects the genital organs of the male, the complaint is exceedingly troublesome, and continually harasses the patient. It is seldom that anything can be seen, except, perhaps, an abrasion of the skin, from scratching, and occasionally a few papules on the scrotum and penis. In warm weather, and after exertion, or a long walk, the annoyance is rendered worse, and it is sure to be heightened by any excesses in diet. Prurigo pudendi may be confined, in the female, to the vulva or mons veneris, or extend over the greater portion of the sexual organs. In some cases the mucous membrane of the labia is studded with a number of small elevations, embedded as it were in its structure, and of a deep red tinge; but these are not tender to the touch or on pressure. The pruritus is so great that the patient can scarcely lie

* The opinion thus expressed by Alibert has lately been revived. The author, however, hesitates to adopt it. Admitting the frequent coexistence of pediculi and prurigo senilis in the above classes, there is, probably, no disease of the skin so common in the highest ranks of society as this variety of prurigo.

down; while the friction to which the surface is exposed, from contact with the clothes, adds to the irritation and prolongs it. It may happen that in the most advanced cases no appreciable difference of structure is observed; and M. Biett cites a notable instance, in which a woman, the subject of prurigo pudendi, was greatly addicted to self-pollution, and yet he failed to discover the least lesion of the part, even with a lens. The disease is more general in women, who have passed the critical time of life, or in whom the catamenia have recently disappeared. It has been known to arise from an overlooked vascular growth at the orifice of the urinary meatus, in which case it may occur at almost any age.

Prurigo podicis usually occurs in people of sedentary habits, and is accompanied by intense pruritus about the verge of the anus. This at night becomes intolerable; and no sooner is the patient warm in bed, than the irritation sets in, which he tries to assuage by scratching. If the skin in the neighbourhood be examined, it will be often found covered with small boils, papules, and dark scabs. It is an obstinate variety of prurigo, and one very likely to relapse. In children prurigo podicis may arise from ascarides in the rectum; and in women, from the pressure of the gravid uterus. Sometimes it is the consequence of hæmorrhoids, or tumours in the lower part of the large intestine.

The same *causes* that have been spoken of as produc- Causes.
tive of lichen must be equally looked for in prurigo. In early life the complaint is seldom noticed, except in the summer months, when it is aggravated by whatever increases the capillary circulation of the skin. This may be brought about by a number of causes, as an undue weight of the clothes, or their excessive warmth, or by

exposure to heat. Neglect of proper or daily ablution is no infrequent source of prurigo in children. At a later age may be named any vexation or anxiety of mind. Prurigo in the adult is more frequent in men than women. Sometimes it is evidently connected with jaundice, shown by the general colour of the surface. Low and damp situations may be likewise classed among the predisposing causes.

Prognosis. The *prognosis* of prurigo will, to a great degree, depend upon the patient's age. In the young, the affection is seldom much prolonged, and succumbs, without difficulty, to treatment. Prurigo formicans is also usually remediable—the worst cases are of that class which have followed some previous cutaneous disease: in them the ultimate issue is doubtful: we may mitigate their severity, but more we are seldom able to accomplish. In prurigo genitalium, the strength and constitution of the patient should be considered. In a subject otherwise healthy, the complaint very generally admits of relief, which, in many instances, is permanent. Still, we must not forget that, with advancing years, the tendency of this form of prurigo is to increase, and the constant annoyance which it thus inflicts may indirectly accelerate an otherwise fatal termination.

Treatment. The indications of *treatment* in prurigo are twofold—to improve the general health, and allay the itching. In children, little more is needed, in the majority of cases, than attention to the digestive organs, and the administration of such salines as the citrate or chlorate of potash, in doses varying from five to ten grains, in camphor mixture, or some mild vehicle. I have found much benefit from an alkali, as liquor potassæ, given twice a day in a decoction of cascarilla or calumba.

In other patients, the iodide of potassium has frequently proved beneficial, exhibited in small doses, not exceeding three grains, administered with or without the liquor potassæ, in the same bitter infusion as above. So much does the general health vary in different subjects, that no fixed line of treatment can be laid down which shall meet the requirements of each case. I may, however, remark, that prurigo, especially in advanced age, allows of no severe treatment, or the exhibition of more powerful remedies, such as arsenic. It is more likely to improve under the influence of tonics, among which may be included quinine, with the sesqui-carbonate of ammonia. As local remedies, the common zinc ointment, with the addition of a small quantity of mercury, five or six grains of the red precipitate to an ounce of cerate, applied to the part night and morning, often diminishes the irritation: and sometimes I have known a very weak nitric acid lotion—half a drachm to eight ounces, or one of bismuth, a scruple of the trisnitrate to six ounces of water, and two drachms of glycerine, exceedingly serviceable.

There are few diseases of the skin which are more benefited by baths than prurigo. They should be used tepid, or warmed to blood heat, but not beyond this point. In any case, if the water be hard, it should be made soft by linseed, boiled to a jelly, or by the addition of from three to four ounces of carbonate of soda. The evening is the proper time for the use of the latter, as it is at this period exacerbations generally occur. Much has been said of the value of sulphur baths in prurigo, but they ought not to be administered except in the chronic stage of the disease, and when the pruritus has considerably abated.

Since the treatment of prurigo is, in many instances, only capable of improvement by an observance of several conditions, it follows that great care is necessary in diet. This should be restricted to "plain wholesome food," without the addition of any form of alcohol, unless it be in the aged, and then only in moderate quantity. The meals also should be regular, and late hours avoided. There are likewise other accessories, which, scarcely less than diet, deserve attention in prurigo. Thus, whatever exposes the skin to irritation, as rough and coarse towels, or flannel, if the patient be unaccustomed to it, should give place to a softer material, and the use of soap exchanged for oatmeal or thin starch. Sometimes the pruritus is so excessive, that the patient tries to obtain a momentary gratification by measures which are only calculated to increase it. On this subject I need only observe, that in no complaint affecting the skin is forbearance from scratching more required.

Treatment of local prurigo.—Still keeping in view the state of the general health, this form of prurigo is often greatly relieved by local remedies. In all cases the first question to decide is, how far the complaint is attributable to any extraneous circumstance. It has been already shown that, at an early period of life, a common cause of prurigo podicis is the presence of ascarides; the removal of which is mostly followed by a subsidence of the pruritus of the part. To effect this object, one of the preparations of steel, taken internally, and continued for some weeks, is recommended; and the use likewise of the following injection every third day, tincture of the sesqui-chloride of iron three drachms, and liquor calcis, a pint, a third of which suffices for one time. In like manner, when in prurigo genitalium its origin is

due to a vascular growth at the meatus, it should be excised at its base, and the latter treated with a strong caustic ; or, better still, by the actual cautery, to prevent a recurrence ; and when produced by hæmorrhoids, the remedy consists in the removal of the offending cause. When prurigo is an idiopathic affection, the use of chloroform is often of great service, applied either in the form of vapour, or as an ointment consisting of equal parts of chloroform and camphor liniment. If chaps exist about the margin, lint dipped in black wash will often relieve them. Mr. Curling speaks favourably of a lotion of sulphuret of potassium, in the proportion of one drachm to seven ounces of water. The bowels should be always properly regulated, and the parts thoroughly cleansed after each evacuation with soap and water.

CHAPTER VII.

ECZEMA.

General characters of eczema. ECZEMA, from the Greek *εζω*, "to issue or bubble forth," is, next to psoriasis, the most common disease of the skin. In its usual form it may be said to consist of an eruption of vesicles, developed on a red and slightly raised surface, attended as well as preceded by a sense of itching in the part. The vesicles become opaque, and give rise to thin scales, which are finally detached, and leave no permanent discoloration. In some of the milder cases of eczema this primary stage may be so brief as to escape notice, or the vesicles may subside before attaining maturity. These are, however, exceptional instances, and do not affect the more general claims of eczema to be regarded as of vesicular origin.

If we have the opportunity of observing eczema within a day or two of its first formation, we shall find it to consist of an aggregation of small red elevations of the skin, rough to the touch, and exuding a slight and watery secretion. A few hours later, and the vesicles become more evident. A tingling, or even a slight burning pain is also felt in the affected part. However uncertain the vesicular period may be, in certain cases continuing only for some hours, while in others it is present nearly throughout the entire course of the disease; the secretion, at its commencement, is always clear and colourless; afterwards, it becomes opaque,

or semi-purulent, or tinged more or less with blood. The scabs which succeed correspond in structure to the fluid from whence they are derived. Soft at first, they become hard and dry, thin, and curled up at their edges. Losing, after a time, their central attachment, they are shed as numberless white scales, and at this stage are entirely without moisture. At length they cease to be renewed, and a faintly red spot alone remains to indicate the former site of eczema.

The patches of eczema vary in size, shape, and situation. Sometimes the eruption is confined to a space not larger than a shilling, when it is generally circular, and seated on some portion of the extremities, or the neck, or face. Should it be the latter, the cheek or forehead is usually selected, or the affected part may be of larger extent and oval or irregular. Such a patch commonly presents a pale red colour, is studded with ill-formed vesicles, that are capped with small crusts, intermingled with cuticular *débris*. If the crusts be accidentally removed, as when a fold of linen previously applied is suddenly withdrawn, a clear secretion issues in drops, which soon concretes again. At a later stage these characters are no longer seen. The surface is then only rough, or glazed, and the skin finally acquires its natural appearance.

Eczema is developed on any region of the body. In Situation. early life it is especially frequent on the scalp, the whole or part of which may be affected, or it may extend from thence to the forehead, cheek, or ears. The disease spreads by continuity of surface, the original patch increasing at some point of its periphery, or several separate patches may be successively evolved. As a rule, eczema chooses those situations which are remark-

able for the thinness of their integument, as the inside of the limbs, the flexures of the joints, the front of the neck, the back of the ears, or the eyelids. Eczema is often symmetrical in its arrangement, and appears in corresponding localities. This is particularly shown when the extremities are anywhere involved, and in that variety known as Ecz. intertrigo. When the disease is syphilitic, or hereditary, its situation is, in many cases, capricious. Thus I have met with it restricted to three toes of one foot, or represented by a considerable patch on either buttock. Age obtains no freedom from eczema. The oldest age on record I find at the Skin Hospital, at which it occurred and for the first time, is 76 years.

Varieties.

Three general varieties are ascribed to eczema: Ecz. simplex, Ecz. rubrum, and Ecz. impetiginodes. Its local divisions are numerous, as Ecz. manuum, Ecz. mammæ, Ecz. intertrigo, Ecz. genitalium, Ecz. aurium.

Eczema
simplex.

In *simple* eczema, the eruption scarcely passes beyond the vesicular boundary, and is accompanied by little or no redness. The vesicles are small, and although crowded are mostly distinct, appearing as so many transparent points on an uninfamed surface. In the course of a few days some of the vesicles will have absorbed their contents, and nothing is left beyond a slight scurfy desquamation. This termination is occasionally witnessed in recent cases of infantile eczema of the scalp. In others, when the vesicular stage is rapid, the surface is dry, and shows a quantity of semi-transparent scales rather than crusts partially attached to the scalp. More commonly the vesicles will have become turbid, or at least the majority of them. They soon end in yellow scabs, which peel off, and leave the

colour of the skin unchanged. It may happen that only a single crop of vesicles will arise, but this is rare. The disease generally soon subsides under treatment, but sometimes extends over many months.

Eczema rubrum differs from the last in the ordinary signs of inflammation being superadded. The affected part is swollen from infiltration, and presents a bright red colour. Much heat and tingling are experienced, and the surface is soon covered with minute shining vesicles. The redness momentarily disappears under pressure, but returns at once when that pressure is removed. Sometimes the outline of the patch is abrupt, but more generally it fades into that of the surrounding skin. At the onset, a certain degree of constitutional disturbance is manifested, which lasts until the inflammation declines. The secretion in the vesicles, at first neutral, soon becomes alkaline, and as it escapes gives to the part an appearance as if it were bedewed with moisture. In some places the skin seems smooth, glossy, and tightly bound; in others, cracks of considerable depth are visible, exposing the cutis, which is both raw and red. The patient, in his endeavours to relieve the irritation, tears the skin, which readily breaks and bleeds, and hence little dry scabs of blood are formed. At other times, the vesicular fluid soon loses its transparency, and yellow crusts ensue, but the discharge continues underneath them, and to such an extent as to soak through whatever lint or dressings are applied. Even when this has ceased, and the scabs are reduced to so many thin shells, the dark reddened tinge of the skin is long retained.

In *eczema impetiginodes* the vesicles are converted into pustules, and the latter form yellow scabs. The irri-
Eczema im-
petiginodes.

tation equals that of *Ecz. rubrum*. When the hair is implicated, its roots become matted together in tufts; the scabs, as they dry, crumble, and are detached in fragments among it. In chronic eczema capitis the patient may temporarily lose the greater part of his hair; of this we see examples when the head has been shaved, those places lately occupied by crusts being still bare. Should the disease have spread beyond the circumference of the scalp, on raising the hair at the side the crusts are notable for being dry, thin, and yellow; they are often imbricated, and at the same time easily removed. The cheeks, or other parts of the face are apt to become attacked, but the secretion is seldom great. If eczema impetiginodes be met with in infancy, or before the growth of the hair is completed, the scalp presents a mass of flat wrinkled crusts, of a yellow or a greenish hue, and from which, if long neglected, an offensive odour emanates.

Course of
eczema.

After the acute stage of eczema, and as recovery is about to take place, it becomes greatly altered in character. The surface of the same patch, which a few days previously was secreting, now ceases to discharge, except perhaps at the centre; which is covered with a few yellow crusts; while the circumference, for some distance, offers only a reddened stain. The scabs hitherto adherent, have either disappeared, and their place been supplied by epithelial scales; or they are but imperfectly attached. I have seen eczema of the face completely changed in appearance by a few hours' exposure to a cold wind, the entire skin of this region being rendered perfectly dry and red, and covered, in great part, by epidermic *débris*. In eczema particularly of the upper extremity or scalp, the complaint is, in most cases,

Squamous
eczema.

finally resolved into a squamous affection, resembling pityriasis in the branny thinness of its scales; which, on the trunk and in general eczema, constitute large flakes of exfoliated cuticle, renewed from a reddened surface beneath, and as often detached; or a like colour, only dull and more diffused, is presented by the same disease, involving the lower extremities, and in either case assumes an appearance somewhat similar to psoriasis. From this or from pityriasis, eczema is distinguished by the existence, at some antecedent period of its history, of a serous exudation, and by its scabs; which, however small, mostly lack the silverlike lustre of the scales of lepra.

Another kind of eczema, which may be developed on any part, is peculiar on account of its similitude to lichen. The disease in this form does not offer any pustules, and its vesicles are few. The surface is rough, and presents a number of minute isolated scabs, scarcely larger than a pin's head, and very adherent. Nor is this a mere phase of the complaint; it is characteristic of the variety, and of a continuance nearly equal to that of the eruption itself. The attendant itching is, however, seldom so severe as in lichen urticatus; which is, moreover, often studded with raised and whitish spots, as if the part had been stung. This species of eczema in the adult is generally witnessed on the extremities; it has a great disposition to recur at some particular period of the year. As a more general complaint, and in an acute stage, it appears to partake of the vesicular and papular elements; the former is sufficiently expressed by a copious watery secretion taking place at intervals; while the latter is

Lichenous
eczema.

abundantly seen at any portion of the circumference of the patch.

Erythe-
matous
eczema.

There is a form of eczema, which may be termed the erythematous, from its relation to erythema. It is almost always seen in the female, and occupies the cheeks; these are flushed, and present on their surface a number of thin and attached scales. Much smarting pain is felt, when the patient approaches the fire, or enters a heated room. The redness is, however, transitory, and a slight oozing of a watery fluid is now and then perceived. The same fleeting colour may be noticed in the lichenous variety of eczema in children. In these cases the irritation is extreme, and the bright redness, which is in no degree limited to the face, is succeeded by unusual paleness.

Question of
contagion.

In certain instances, and in those only, can eczema be deemed contagious. Thus, in early life the secretion may be so acrid as to cause an eruption of the same nature on the hands of those who have charge of the child. Syphilitic eczema is also occasionally communicable. At this time of writing I am acquainted with two examples in suckling children, in whom the disease has manifestly spread from them to the mother or nurse.

Eczema
hereditary
or relapsing.

Eczema is sometimes an hereditary, and often a relapsing complaint. Although a less constitutional affection than psoriasis, eczema will sometimes pass through several generations, and occupy, it may be in each case, a different situation. Hereditary eczema is frequently obstinate and severe, and unlike the squamous diseases, does not diminish in proportion to its descent. As a relapsing disorder, eczema may occur at a fixed period, as the autumn or spring, or after a long irregular interval. With the exception of the hands,

which it is apt to invade successively, eczema is somewhat prone to attack new regions, as the ears, forehead, scrotum, and other parts.

Dentition exercises a powerful influence in the development of eczema in early life. There is reason to suppose, in many cases, that improper food, as saccharine matter or acid in excess, largely contributes to favour the disease. As a consequence of an increase of temperature, we have eczema following exposure to the rays of the sun on those parts which are unprotected by the clothes, viz., the face, neck, and hands; and still more frequently from the heat of a furnace, about which dust and other noxious particles abound. There are several external agents which rapidly produce local eczema, as for example, croton oil: a knowledge of this fact enabled Hebra to induce the eruption artificially, and to note its various changes. The too active use of sulphur for the cure of scabies often gives rise to eczema, when the skin is naturally delicate. The origin of the grocers' or bakers' itch, which is in reality eczema, is usually attributed to the contact of sugar or flour alone. This statement is true to a certain extent. It is well known that in sugar an *acarus* is easily generated, which quickly multiplies to an extraordinary degree; and there can be little doubt that in the variety of eczema peculiar to the trades from whence the name is derived, its existence often proves a source of irritation, and favourable to the development of the eruption. Other occupations, which involve the necessity of handling substances scarcely less noxious, produce a similar result; and thus we frequently meet with the disease in dyers, hatters, compositors, and those accustomed to the use of lime or soda. Pregnancy and

lactation may be mentioned among the predisposing causes of eczema.

Treatment. In considering the treatment of eczema, we should take into account the stage of the disease, its variety, and origin. The same principles of treatment which were discussed in an early chapter on psoriasis in the inflammatory stage will equally apply, during a similar period, to eczema; and I may again advert to the value, in these cases, of antimony in conjunction with saline aperients. With the subsidence of the inflammation, the antimony should be omitted or reduced, and, in many instances, no other constitutional means are needed.

Value of arsenic. Arsenic, it may be stated, does not prove equally beneficial in the treatment of eczema as in certain affections of the squamous class; although its claims to consideration are unquestionable in the local varieties of this disease. Never is it advisable to have recourse to the administration of arsenic in eczema during its acute course. As a rule, when eczema is strictly local, and confined to the hands or ears, or other parts, great gain may be expected from its use internally, care being taken to prolong the treatment by small doses rather than to hasten it by a larger quantity. I am no advocate for increasing the dose, which, for an adult, should consist of three or four minims of the liq. potassæ arsenitis, given in water or any suitable vehicle, *and always after food*; still less should it be persevered in, when its constitutional effects are produced.

Mercury. In contradistinction to arsenic, the chief value of mercury rests in its successful application to that numerous class of cases, for which the first-named mineral is unsuited. In syphilitic eczema mercury is invaluable, and

in instances of general eczema in the adult it is usually requisite. The best method of its administration is the vapour bath, recommended by Mr. Henry Lee. Nothing can be more simple than its application; it has the advantage of being attended by the least risk to the patient's health, and may be used every other day or daily. Inunction is another plan which answers remarkably well in children. In this case a flannel band is to be worn around the abdomen, on which should be smeared daily from half a drachm to a drachm of mercurial ointment. Scarcely less satisfactory are the results to be obtained from giving mercury by the mouth. The bichloride is the preparation I prefer to any other, in doses of the eighth or twelfth of a grain given twice a day to a grown person, and proportionately less to a child.

The internal use of sulphur is of value in eczema, Sulphur. when we wish to avoid mercury. A mode of administering it, which I have found of service, is to add to a drachm each of precipitated sulphur and tartrate of soda, from ten to fifteen grain of the bicarbonate of potash; the powder may be taken in a cup of milk every morning. Should the complaint be very severe, half a grain of calomel and three grains of James' powder may be likewise ordered at night. If the medicine shows any disposition to gripe, the sulphur should be given in half doses, but in that case it must be continued for a longer period. By this plan of treatment we are generally enabled to subdue the disease in a short time. Its great utility is seen in those instances in which the eczema is acute and general, and when the urine is both scanty and loaded with the crystals of urate of soda. This latter condition is too

often overlooked, and yet no truer guide can be taken, denoting a progressive improvement, or the reverse. A period will now in many cases arise, when the complaint becomes stationary, or nearly so. The eruption has probably disappeared from the greater part of the body, and yet lingers in one region, or returns. It is at this stage that arsenic is most serviceable; and if no untoward symptoms occur, it may be pushed to the extent of nine minims a day. The diet, it need scarcely be said, should be strictly regulated throughout in eczema, and all fermented liquors carefully avoided.

Iron.

Steel is indicated in eczema, when anemia is present. Such cases are generally met with about puberty, and are attended by a large amount of secretion from the affected surface. They will mostly derive great benefit from steel, to which arsenic may be added in small doses.

Eczema in children.

In the milder examples of eczema in children, an alkaline plan of treatment is frequently serviceable, more especially in the summer months, when unripe fruit is apt to be largely partaken of. For this purpose the acetate or chlorate of potash may be employed. It tends to correct any undue acidity of the urine, and lessens the irritation so frequently experienced. When the disease is severe, and milder measures have proved unavailing, mercury is of great use at this age, and to the period of puberty.

Local treatment.

At the same time that eczema is thus treated constitutionally, it will be necessary to have recourse to certain local remedies, which demand some degree of care in their application. The first point to be attended to is the removal of the crusts at each dressing, wherever they collect. These, unless they happen to be

unusually large and firm, can be detached without difficulty by the aid of thin starch or the yolk of egg and warm water. If they be not thus readily removed, their dislodgment will be much facilitated by the application of pieces of lint dipped in olive or almond oil, and a poultice over them. In eczema capitis, should the hair be abundant, it must be cut short, but not shaved, otherwise it is almost impossible to keep the scalp properly cleansed. In children, a weak alkaline wash, as from one to two drachms of carbonate of soda to a pint of tepid water, will materially contribute towards the removal of the crusts.

When the inflammation is considerable, the oxide of zinc or the carbonate of lead are recommended, a drachm of the former or a scruple of the latter to an ounce of cerate. The addition of benzoin to lard renders the latter much less likely to turn rancid, and is generally employed on this account. Either of these preparations should be smeared, but not too thickly, over the part cleaned as above directed, morning and evening. In those cases in which the disease has passed into impetigo, and is characterised by a copious yellow discharge, an ointment containing from fifteen to thirty grains of sulphur, with the same amount of unguentum hydrargyri to each ounce of lard, will often be very efficacious. Mercury, in one of its varied forms, offers a wide field for selection in the choice of a local agent, and one also very deserving attention. These I need not repeat, as they have been sufficiently alluded to in previous chapters. As a lotion, the oxide of zinc, in combination with glycerine, in the proportion of three drachms of the latter to one of the former, in half a pint of water, will often greatly mitigate the irritation of

eczema, whether of the lower extremities or the scalp. It is not so easy to employ lotions constantly on the trunk, and therefore I seldom resort to them in eczema of this region. The carbolale of glycerine, manufactured by Calvert, is another and excellent preparation, as it combines carbolic acid and glycerine.

Tar, as the unguentum picis liquidæ, or the *huile de cade*, is of use in chronic eczema, particularly of the scalp. The hair having been previously shortened, it may be applied with a paint brush, and allowed to dry. The patient should then wear a light cap, to protect the part. What remains of the tar after a few days is easily removed with a soft brush, and one application of the ointment is generally sufficient. As long as the disease is acute it should not be used. Tannic acid, in the proportion of ten grains to an ounce of cerate has, likewise, a reputation in chronic eczema, but I cannot speak from personal observation of its effects.

Treatment
of chronic
eczema.

In circumscribed eczema of long standing the application of a blistering fluid is sometimes beneficial. The surface of the patch is to be touched with the acetum cantharides, and then immediately wiped with cold water. Hebra mentions with approval, a stronger agent, viz., a drachm of potassa fusa to an ounce of water. A method similar to the first is occasionally useful in chronic eczema of the fingers; and when a slight watery discharge oozes from time to time from the hand, a weak nitric acid lotion may be advantageously employed. In chronic eczema, where the irritation is still considerable, the latter will notably diminish from lightly painting the surface, once in twenty-four hours, with a solution of sulphate of copper, in the proportion of four grains to an ounce of water.

The treatment of eczema by water fomentations or a ^{Treatment} douche bath is advised by Hebra, who minutely describes ^{by Hebra.} their mode of preparation. He also recommends, as a local agent, methylated spirit and tar, in equal proportions. The latter plan I have tried in several cases, but with no encouraging result.

Patients suffering from general eczema will sometimes complain most of the irritation when feeling cold at night, and are unable, in consequence, to sleep for several hours. This may continue for a number of days, and is at least an annoyance. The good effects of the simple vapour or warm bath, taken in a warm room and at bed-time, are often very apparent in this class of cases.

Besides the use of medicines, we must refer, in eczema, ^{Causes of} to its cause, in order to promote a cure, or to guard, as far ^{relapse.} as possible, against a relapse. Thus, in eczema of the breast, the consequence of lactation, it is imperative that the child be weaned, and without delay; and when the complaint is clearly due to some external and continued irritant, as lime, sugar, &c., the latter should be avoided. If the patient be afterwards obliged to resume his employment, which has occasioned the eruption, he would do well to protect his hands by anointing them with an unctuous preparation, or wear some form of mittens or gloves. Chronic eczema of the lower extremities not unfrequently leads to a troublesome kind of ulcer of the leg, and with it a varicose state of the neighbouring veins. The former is generally much relieved by an ointment containing the red precipitate of mercury, from five to ten grains to the ounce, spread lightly on a piece of lint the size of the ulcer, while over it is placed a compress of linen that has been wrung in hot water. For the latter, the patient should be directed to wear a

bandage, at least seven or eight yards long, carefully applied from the toes, and with even, but not severe pressure from the ankle upwards. As long as the disease is acute, he should neglect no opportunity of resting the limb in the horizontal position, and this is more effectually done by raising the heel, and so lessening the force of the current of the blood. Sometimes eczema is indirectly occasioned by a residence in damp localities, or by a deficiency of proper air and ventilation. The last is too often apparent among the children of the poor, while the subjects of the first in general pertain to women who have passed the middle period of life.

Among other influences which may lead to a relapse in eczema is exposure to the weather; and of this a striking example occurred to me in the early part of the present year. A woman, about 30 years of age, came to the Skin Hospital with eczema, confined to the face, apparently chronic, and by no means severe; and which soon yielded to treatment. In a few weeks, however, she returned with the complaint in an aggravated stage. She then told me that, as long as she remained in-doors, the disease subsided readily enough under treatment, but that the slightest exposure was immediately followed by a severe relapse. I requested her, on the next occasion of an attack, to pay me a visit, and the face then showed a most acute form of eczema, accompanied with great infiltration of the eyelids and cheeks. I also learned that, on her passage home from the Brazils, where the eruption first occurred, she could not venture on deck, from the certainty of experiencing a recurrence of the disease.

Local varieties of Eczema.

Eczema of the hands.—As an idiopathic complaint, ^{Eczema of the hands.} eczema usually selects the back of the metacarpus, extending from thence to the fingers, or the latter may be involved alone. Sometimes there are several patches, which are separated from each other by healthy skin; or the eruption is confined to the palmar aspect. The disease, which is more frequent in women, is characterised by great obstinacy, and an excessive proneness to recur. In other instances, the entire dorsal surface is greatly distended by infiltration, and except for a few scales, rendered quite smooth. Signs of serous exudation can, however, be generally detected on close inspection, as well as confirmed by previous history. In an early stage, a large amount of serous infiltration is sometimes seen, which may reach to the ends of the fingers, causing the whole surface to be red and swollen. At a later period, or in a chronic stage, the surface is dry and rough, now and then “weeps,” and is partially covered with thin white and small scales; or these may have disappeared, and only an excessive roughness remains. If near the knuckles, the skin over them is thrown into transverse folds or wrinkles, or numerous cracks extend along the back of the fingers, even to their tips; which, with the rest of the hand, are stiff, and moved with difficulty. The secretion at any stage is slight, and colourless, like water. Very generally it is increased by the patient rubbing the part, which he is much disposed to do at night, as at this time the irritation is greatest. Vanishing, or nearly so, in the summer, the disease often returns in the autumn, a sense of itching and roughness being the earliest symptoms, indicative of a relapse. After the complaint

has subsided, it still leaves the skin red, and much thickened, and the linear depressions on its surface are well marked. In the male, eczema of the hands is commonly determined by some local cause. It then runs, for the most part, an acute course, and passes rapidly into eczema impetigo. Sometimes one or more of the nails are affected at the roots, whence a change from the natural state to a rough white and scaly condition is first perceived, although in many cases no pain is felt. If it is allowed to continue, the nail falls off, and this may happen to all, whether of the fingers or toes. Their regeneration, nevertheless, takes place, and under favourable auspices, the new growth is free from disfigurement. Should it happen that the nails recover, without being renewed, their surface then shows a number of small transverse elevations, and this state generally continues for many months.

Eczema of
the genitals.

Eczema of the genitals may happen to either sex at any age. In infancy, and at the same time if severe, this form of eczema is mostly syphilitic. The child has usually an unhealthy aspect, snuffles in his breathing, and is more or less, as a rule, emaciated. Should no other history be obtained, a series of miscarriages is frequently traceable on the mother's side. It is not at birth that the eruption generally declares itself, but some days after, varying from a fortnight to a month; nor is it confined to its original situation, invading, as it may, other parts in quick succession. The disease is more inclined to partake of the papular than the impetigenous variety of eczema, especially after having thus become general. In the adult, the redness is seldom so bright as at an early period of life, and the eruption is more restricted in its situation. Sometimes it spreads to the

penis, the loose tissue of which is rapidly infiltrated; and in less severe cases it commonly travels along its under surface to the frænum. A thin glazy secretion issues from the fold of the scrotum, and much of the distress is caused by scabs becoming detached in various ways. In the female it is frequently associated with leucorrhea.

Eczema intertrigo is the name given to eczema when Eczema intertrigo. it is situated at the bend of the larger joints, as the groin, popliteal space, or front of the elbow. Sometimes all these places are attacked, but generally it is confined to two, and these are on opposite sides. There is not much discharge, and what there is is light-coloured and transparent. The surface is chapped and rough, and shows little tendency to spread, unless in the axilla, when it will sometimes creep along the adjacent side of the chest. In this situation it is often connected with a similar complaint affecting the side of the neck. Arrived at a late stage, it becomes dry, or even quite smooth, and so it may remain for many weeks without changing its character. Seldom seen in men, it is common enough in children of both sexes, and in young women who have a fair skin.

The female breast is liable to an eruption of eczema, Eczema of the breast. particularly during the time of suckling, or the disease may show itself at puberty, when the mammæ have become largely and quickly developed. It commences near the nipple, and unchecked, may spread to the opposite gland. It is attended by considerable secretion, and much pain is experienced from excoriation, unless the child be weaned. Under puberty, eczema of the breast is rare in the female, and almost unknown at any age in the male.

*Eczema of
the ears.*

Eczema of the ears, in the majority of cases, is confined to the soft and tender skin lining their posterior aspect, which in an early stage gives rise to a thin discharge. This finally disappears, and leaves a few thin scabs on a red ground. The complaint is sometimes, however, seen in front of the ear, and it may block up the external meatus, and so interfere with the sense of hearing. It offers no special characters, but its locality is very pathognomonic. The same may be said of eczema of the lids, which is not an infrequent attendant upon ophthalmia.

CHAPTER VIII.

HERPES.

HERPES is the term or name employed to designate ^{General characters.} a collection of vesicles, disposed in irregular patches, which vary in extent from the smallest size to several inches in diameter. The vesicles are commonly larger than those of eczema, and almost hemispherical in shape. The disease, after a certain course, terminates usually in resolution; and except in one species, is not contagious.

A frequent variety of simple herpes is *herpes phlecty-* ^{Herpes phlecty-nodes.} *nodes*, which may be often seen on the face or the cheek. Its earliest sign is shown by the appearance of a red spot, which somewhat smart or tingles, and in the course of a few hours becomes covered with vesicles; of the latter, some remain small, while the majority rapidly enlarge. At the end of twenty-four or thirty-six hours, the vesicles are opaque, and as they burst the fluid concretes and forms crusts, which drop off, leaving only slight reddened discolorations. Herpes phlectynodes, or "brow shingles," will sometimes take place on the eyebrows or upper lid after an acute attack of ophthalmia. Of a similar character is *herpes iris*, ^{Herpes iris.} where concentric circles of vesicles are grouped around a single and central vesicle. It is in consequence of this disposition of the vesicles that the term iris is applied to the eruption.

When found on the tongue, or soft palate, it is only in the early stage that the disease is recognised; owing to the surface being constantly bathed with saliva, no crust can form. The thin mucous membrane is easily broken, and the superficial ulceration consequent upon it soon disappears.

*Herpes of
the prepuce.*

Herpes of the prepuce is evidenced by a small group of vesicles, filled with serum, which soon dry and give rise to thin scabs. They are generally seen at the free edge of the prepuce, sometimes on its under surface, and seldom on the glands. The eruption is accompanied by slight itching, and occupies an extent of an average size of a threepenny piece. Situated on the mucous lining, the vesicles soon mature and break, and thus cause a superficial excoriation, which, left to itself, is soft, and quickly heals. It is sometimes otherwise, if the complaint has been subjected to caustic treatment, in which case it is not always distinguished from a syphilitic sore. When on the integument, the scab mostly heals without any ulceration or enlargement of the glands at the groin. Herpes is less common in the female, and in this sex it is usually found on the labia, either after menstruation or in the course of pregnancy. Provided the complaint be not interfered with, herpes of the genitals rarely lasts beyond a few days, and is altogether a slight disease.

*Herpes
labialis.*

Herpes labialis occurs on either lip, at the junction of the skin and mucous membrane, or at the angle of the mouth, or it may affect the greater part of the exposed mucous membrane of the lips, which is then raised like a series of blisters. Little inconvenience follows, unless the part be hot and swollen, which is the case sometimes. When confined to the corner of the mouth, the vesicles

are separate, and do not often suppurate. At the end of ten or fourteen days or less, the crusts lose their attachment at the circumference; they fall off, and no further inconvenience is felt.

Herpes zoster or *shingles*, called by older writers *St. Anthony's fire*, or *ignis sacer*, is a well-marked vesicular eruption, more frequent in early life than advanced age. Herpes zoster. In most cases it follows the course of one of the intercostal nerves, not far from the vertebral column; or it may commence near the sternum. On the trunk, the complaint is represented by several distinct patches, which are largest in their transverse diameter, and oblique in direction. They are successively evolved as so many red stains, which soon become studded with closely packed vesicles. These often attain a large size, equal to that of a pea, and are flattened at their summits from the pressure of the clothes or other causes. A slight pricking or burning pain precedes their first appearance, and in many cases some degree of constitutional disturbance is shown. Occasionally, severe dyspnoea will be a precursory symptom; the patient may complain of a "catching" pain when taking a deep inspiration, which might be mistaken for commencing pleurisy. Sometimes the clusters are so arranged as to resemble a belt or zone encircling one half of the body. Authorities widely differ as to the side which is most affected; thus, the occurrence of herpes zoster on the right side is mentioned by Cazenave and Schidel as having happened nineteen times out of twenty in their experience, whereas Rayer and Reil note the left as that most frequently attacked. The point is unimportant; but it is most rare to meet with herpes zoster completely encircling the body, an event which in former days was

deemed a singularly bad omen to the patient. The zone is generally incomplete, being deficient at either extremity or the centre. Starting from the vicinity of the vertebral column, the eruption may pursue the track of one of the cutaneous nerves of the abdomen, of the thigh, or of the upper extremity; or one of the branches of the superficial plexus of the neck, or of the facial after its exit from the infra-orbital foramen. Less frequently do the supra-orbital or occipital nerves suffer in a similar manner. Any of them may however present at their periphery, or at various points in their course, a cluster of vesicles identical with herpes zoster of the trunk.

In the young and otherwise healthy subject, herpes zoster runs an acute and rapid course; the degree of constitutional disturbance varies in different cases, and sometimes is wholly absent. A young woman, aged 17 years, became a patient at the Hospital with herpes zoster of the left side. Many of the vesicles were single, and quite separate, while others were disposed in groups of three or four; the whole formed an unequal line from the sternum, and passed close under the nipple to the axilla, where a large patch was observed. The eruption was well developed, and of four days' duration. It was only by accident that the patient's attention was directed to the vesicles, which were unattended by any constitutional symptoms. In the aged, on the other hand, or in those in whom the health is much impaired, the scabs are apt to be succeeded by troublesome ulcerations, which are tedious in healing, and occasionally become the seat of acute neuralgia.

Causes.

Herpes of the lips sometimes appears towards the close of a catarrhal affection, bronchitis or pneumonia, or fever intermittent or typhoid. The same disease will attack

delicate children exposed to the sun's rays on a hot day; or it will occur frequently without a positive cause. In many cases, herpes phlectynodes would seem to be produced by certain changes in the atmosphere. In hospital practice it not unusually happens that several patients, chiefly young adults, are simultaneously attacked. Herpes preputialis is said to be often connected with an elongated prepuce, which favours the retention of the glandular secretion beneath it. To this cause or to stricture is commonly ascribed herpes of this part, though it may appear without any such complication. This, when it does occur, may be accounted for by the constant escape of a few drops of urine, which by wetting the linen keeps up a continued irritation about the prepuce. Whether such be correct or not, there is no doubt that efficient and daily ablution will greatly aid in preventing a recurrence of the eruption. The cause of herpes zoster is quite unknown; its subjects are generally youths, or men who have not yet reached middle age. The complaint is much less frequent in the female.

Whatever the variety of herpes, nothing is generally Treatment. more simple than its treatment. Left to run its own course, the disease, as a rule, will subside after a few days. In phlectynoid herpes, all that we need do, is to dust the vesicles with a powder, consisting of equal parts of calamine and starch, contained in a small muslin bag. This causes the vesicles to shrink, or should they have already burst, it acts as an useful shield, and prevents the surface from excoriation. If the patient complains of unusual tenderness, this may be relieved by the application of a lotion of oxide of zinc—one to two drachms to eight ounces of water,

and three drachms of glycerine. In herpes of the prepuce, the insertion of dry lint alone beneath the foreskin, once or twice a day, will be sufficient; or a simple lead lotion as a wash. In herpes labialis, a patient who has once suffered from an attack, of which he is generally forewarned by a sense of heat and tightness in the part, is liable to experience another. Sometimes, at its outset, its further progress is checked by frequently bathing the surface with a spirit lotion, as equal parts of rectified spirit or Eau de Cologne and water.

A similar line of treatment may be adopted in herpes zoster; and we should be careful to avoid in this complaint anything likely to irritate the vesicles or to interfere with their natural termination. The eruption in the adult is sometimes associated with rheumatism, in which case salines with colchicum will prove of service. The ulcerations, to which allusion has been made, when obstinate and painful, are often relieved by the use as an ointment of belladonna or conium, or by powdered morphia applied to the surface, in the proportion of from one to two grains to an ounce of lard: with their employment the general health should be attended to. Sometimes the pain is excessive, or continues in spite of any local measures. It may then be a question, whether division of the nerve leading to the seat of pain might not be tried: and in one case, to my knowledge, this procedure was of signal service. The neuralgia at once ceased, and never returned. The case occurred in Mr. Startin's private practice, in a gentleman who had resided several years in India. Various remedies had been adopted from time to time, but with no result; at length section of the nerve was suggested and acted upon, with the best effect.

Herpes circinnatus or *tinea tonsdens*. Bazin and other French writers comprise herpes circinnatus, tinea tonsdens, and sycosis under one head. They also assert that these affections are produced by one and the same parasite, the *trycophyton tonsurans*, or more properly, *trycophyton Malmsten*, named after its Swedish discoverer. Regarding herpes circinnatus or ringworm, as a disease situated on the trunk or extremities, which it is generally allowed to be, while tinea tonsdens affects the scalp; their coexistence is so frequent, and their characters so alike, that their absolute similarity almost ceases to be a matter of speculation. Sycosis is a complaint peculiar to the male, after the period of puberty, and confined to the hair of the face. Leaving the question of its cryptogamic origin to be discussed in its proper place, this disease is expressly limited in its action to the bulbous portion of the hair, and does not appear above the level of the skin. In these important respects, it so greatly differs from "ringworm," that it may be considered as a separate malady.

It is now some years since that my attention was first attracted to the two following cases, which forcibly illustrated the similarity of the two affections, which yet retain a duality of name. One was that of a boy, 7 years old, with "herpes circinnatus," on the metacarpal space of the right hand, and with a patch likewise of "tinea tonsdens" on the occiput; in the other, also an out-patient of Mr. Startin's, a woman, aged 30 years, was admitted with the characteristic ring of "herpes" circinnatus on the middle of the right forearm. She was the mother of three boys, each of whom became afterwards affected with "tinea tonsdens" of the scalp. There could be no doubt that these were instances of one and the same

Herpes circinnatus, or tinea tonsdens.

Identity of these diseases.

complaint, which had obviously spread by contagion; nor can they be regarded any longer as exceptional. Opportunities have since occurred to me of witnessing a great number of cases of herpes circinnatus in children; and so common is the coexistence of these complaints, that about one in every five afforded an example of the above complication. And as if to complete their identity, the eruption would sometimes be seen on the nape of the neck, in part covered with hair, and in part nearly destitute of this additional protection.

Course of
H. circin-
natus.

At its commencement, herpes circinnatus consists of a group of minute transparent vesicles, developed on a red patch, which is seldom larger than a split-pea in diameter. In many cases, and particularly on an exposed surface as the face or neck, the vesicles rapidly shrivel and dry, and we observe only a red spot, rough with small whitish scales, the *débris* of the vesicles; it retains its redness under pressure, and is distinctly elevated. Sometimes irregular, it more generally inclines to a circular shape, and is attended by considerable pruritus. This last character may be overlooked in children, but is invariably present in the adult, and occasionally severe. There are no premonitory symptoms, such as commonly denote the accession of herpes zoster, from which, as well as the other varieties, herpes circinnatus is quite distinct. The scales vary with the quality of the original secretion, and are white, or have a yellowish tinge. At this period the vesicular stage has wholly disappeared. Should the disease continue, it enlarges at its circumference, which is then wont to assume the form of a circle, composed solely of vesicles; while the area loses by degrees its scales, and appears healthy. In some cases the ring is imperfect, or approaches an elliptical or reniform outline, especially if

situated over one of the larger joints; and on the trunk it is not uncommon to note one or more irregular figures, consisting of as many different segments, severally united at their extremities. On the limbs, or where the part is covered by the clothes, the vesicular character is more persistent, and the spot or patch is often much raised, and to be felt by passing the finger across it.

Although modified in its progress by the hair, herpes circinnatus of the scalp preserves at first its vesicular element, and at this stage the hair itself is unchanged. The bulb may be irregular, but the shaft offers no sign of disease, and the same resistance to its extraction exists as in a healthy state. A certain interval is necessary for the development of the parasite, which occasions the following remarkable condition of the hair: over the affected surface, which is of variable extent, but seldom larger than a crown piece, unless in advanced cases, the hair is seen to be broken off at a short distance from its root, and more or less twisted or bent; it is moreover dull, and has lost its natural colour and resiliency. So brittle is its texture that it snaps rather than allows an entire extraction. The patch is coated with small white scales, and sometimes at its boundary we may observe, especially with a lens, a few minute and transparent vesicles. If, in this state, the hair is examined microscopically, it will be discovered to be loaded within and without with spores; to the first is due an increase in its diameter and an irregularity of outline, both of which characters are well portrayed in Plate VI., fig. 6; its free extremity is also jagged or uneven. Externally the hair is covered with strings or rows of spores, which are disposed longitudinally to its axis, but in an irregular manner. They are round, less frequently

Herpes circinnatus of the scalp.

Microscopical appearances.

oval, and contain a granular body, or imperfect nucleolus. In size, the spores vary, according to Malmsten, from 0·003 to 0·007 mm. Similar microscopical appearances are also seen in the scales, which can generally be scraped off the skin from which the diseased hair grows. The complaint spreads by the development of similar patches, and we may sometimes count as many as eight or nine on the head at the same time; or, confined to a single spot, it enlarges by an extension of its circumference. In either case, the disease, if unchecked, will advance until the whole scalp is affected.

Permanent baldness is stated to be a consequence of herpes circinnatus. This, in my experience, is rare, and more frequently a result of the remedy, as when strong caustic agents have been applied, than the actual disease. The parasitical stage of herpes circinnatus lasts only for a certain time, and in the progress of this complaint towards recovery, the affected patch is rough, and in places faintly red; the hair follicles are also enlarged and prominent. The redness afterwards disappears, and the surface is left of an ashy grey, which distinguishes it from the surrounding healthy skin. As soon as the new hair has commenced to grow, it is strong, and not easily pulled out; it is as yet scanty, and generally of a lighter colour than the old. Under the microscope the bulb is more or less fusiform, and the lower part of the shaft is often very irregular, but it is neither broken nor does it display any fungoid characters. If situated on the trunk or extremities, a similar effect is produced; a slight roughness for some time remains, and the redness finally vanishes. A few papules may still be traced, and a slight itching is now and then felt.

Causes.

Causes.—No doubt remains that the disease is

caused by contagion, which is mostly communicated by direct contact. Circumstances also render it highly probable that the sporules may be transmitted by the air, and it has been shown by experiment that these same bodies are capable of disseminating the disease by inoculation. When a number of children are collected together, as for example in a school, the disease often spreads rapidly; but among the elder members, although they are exposed to the same risk, its influence is less observed. In the event however of its occurrence in the latter, the restriction of the complaint to the body and limbs, rather than to the scalp, its chief seat of selection in early life, is a singular feature of its history. When affecting the hair, the disease originates in the follicle, and with the development of the shaft the sporules multiply and ascend, until they reach a certain portion of its length; then, as we have seen, it suddenly breaks off, its integrity being destroyed. The complaint is uninfluenced by the seasons; and although more usually attributed to affect boys than girls, a sufficient explanation is afforded in the increased risk of communication among them, and not to any real exemption in the female. Of the most frequent modes of transmission by contact may be instanced the use of a cap or comb of an affected patient by a second person; while still more direct evidence is supplied by the disease, when it is conveyed by the back of the hand to the head in the same individual. As a proximate cause among the working population in Paris, Hardy cites the want of ablution, which, by permitting the perspiration and dust to collect, favours the development and growth of the cryptogame; and Bazin inclines to the same view. But something more than this is required to explain

its origin, since "tinea tonsdens" is by no means limited to one or any class of society. Bazin enumerates among the predisposing causes, struma and syphilis. As an accompaniment or a consequence of syphilis, I am altogether unable to corroborate this statement, and it has certainly no necessary connexion with struma, although often found in patients of strumous habit.

Diagnosis. Herpes circinnatus is to be diagnosed from alopecia by the smooth appearance which the latter exhibits, as well as from the absence of all broken hair, and in its being non-contagious. From the squamous diseases of the scalp herpes circinnatus differs in the circumscribed character of the implicated part, and in the larger and thicker scales which are presented by psoriasis. The same limited extent of surface will also distinguish it from pityriasis, which, like psoriasis, is unaccompanied by any change in the texture of the hair involved. H. circinnatus of the face is sometimes very similar to psoriasis, when it appears as a small patch, and is rough, raised, and red. It differs from psoriasis in the pruritus which attends it throughout, in its parasitical nature, and in the primary formation of vesicles. Sometimes, in pompholix, a ring of vesicles may be seen surrounding a central small scab; or scabs are formed on the back of the head or in other parts; but the vesicles are essentially larger, and the disease is seldom so circumscribed as in herpes.

Treatment. Herpes circinnatus is a disease which, unless it has become very chronic and extensive, generally yields readily to treatment. It is only necessary to apply to the part a stimulant sufficiently strong to act on the parasite without obliterating the hair follicle. For this purpose the common sulphur ointment is an excellent remedy. The usual mode of treatment at the

Skin Hospital is to blister the diseased surface with the "liquor vesicatorius," or the glacial acetic acid, lightly applied; and when its effects have subsided, a mercurial ointment, from half to a drachm of the ammonio-chloride of mercury to an ounce of cerate, is used morning and evening. In slight cases a single trial of the blistering fluid will often suffice. In the adult, a preparation of mercury, as the above, is preferable to more active means; or in children, when the complaint occupies the trunk, and comprises a tolerably large area. In such cases a powerful stimulant alters the appearance of the disease without eradicating it. The true ring disappears under its influence, and the eruption becomes more of a papular kind. A plan of treatment different from the preceding, and followed by excellent results, is that adopted by Mr. Coster (Medical Superintendent of the London District School, Hanwell), which consists in the application of tar and iodine — an ounce of the former to two drachms of the latter.* This is applied in the

* I am glad to avail myself of this opportunity of thanking Mr. Coster for the great facilities he afforded me when engaged in studying "herpes circinnatus" among the large number of children at the school. The following is Mr. Coster's method of using the ointment. "The hair in the neighbourhood of the diseased patch is either shaved or cut short. The preparation of iodine is then applied freely with a camel-hair pencil; or, what is more convenient, a small bit of sponge tied to the end of a piece of stick or whalebone, after the manner of a probang. The application is allowed to soak into the diseased surface, and no dressing is necessary. In the course of a week or ten days the scurf-skin separates, and generally leaves a healthy surface beneath. I usually find one application is sufficient to effect a cure, when the disease is recent; but if it be very chronic or of several months' duration, it needs to be repeated perhaps three or four times.

" R. Iodinii pur., ʒij.

" OL. picis (sp. gr. '853), ʒj. M. et solve.

" The iodine and oil of tar should be gradually and carefully mixed; otherwise a considerable amount of heat will be generated, and the

form of a paint, and allowed to dry on. It has the advantage of retaining its efficacy for several days, and I can speak from experience of its success. The earlier the stage at which the disease is thus treated, the greater is the likelihood of relief, but it should not be withheld even in cases of long standing. From the susceptibility of herpes circinnatus to spread to other patients, it is advisable, in the event of a child becoming affected with it, to keep him apart from his playmates for some days; and in an older subject, if the eruption be general, he should be made to avoid all risk of communicating it to others. When limited to a single patch, after the surface has been blistered, or treated in the manner just directed, it will be enough for the patient to wear some kind of covering, for protection.

In strumous patients, herpes circinnatus is sometimes an obstinate affection. The disease seems arrested at a certain point, but makes slow progress towards recovery. Small boils will also frequently arise on or near the patch. Cod-liver oil may be administered with good effect in these cases, and sometimes arsenic, given internally, has proved of service. Any hairs covering the boils should be extracted, which is easily done when suppuration has taken place in them.

"iodine dissipated. They appear to combine chemically, and form
"a dense greenish-black fluid.

"From the large proportion of iodine contained in this preparation,
"it might be assumed that when applied to the scalp it would give
"rise to a good deal of inflammation. This, however, is not the case,
"nor does it cause much irritation or inconvenience. It appears to
"me that its properties depend upon its soaking into the diseased
"hairs, and so gradually giving up its iodine to the parasite of tinea,
"which it totally destroys."

CHAPTER IX.

POMPHOLIX.

POMPHOLIX or *Pemphigus* is known by an eruption General characters. of bullæ, which at first are very minute, and resemble ordinary vesicles. In their progress they vary considerably. Generally hemispherical, they may, by their confluence, assume great irregularity in shape, and attain a diameter of several inches in extent. The fluid in the bullæ is always clear and transparent at an early period; it may maintain this character throughout its course, but more frequently becomes turbid or sero-purulent, or mixed with flakes of lymph. At either extreme of life, or in unhealthy subjects, the same secretion is sometimes tinged with blood. The walls of the bullæ are thin, and easily yield to the pressure of their contents or to slight force.

The fluid, as long as it is limpid, is neutral or Chemical composition of the fluid. alkaline. It readily coagulates by heat, and becomes nearly solid on the addition of nitric acid. An analysis has been made by Simon and Haller, who agree in the large proportion of water it contains, being no less than 940 or 955·80 in 1,000 parts. As might be expected, albumen is present in much quantity, and together with the earthy phosphates is estimated by Simon at 48 parts in 1,000, which leaves only 12 to include the fat, cholesterine, extractive and other matters.

As an *acute* affection, pompholix is generally local, and Acute pompholix. appears on the hands, face, or soles of the feet; bullæ are

rapidly developed, and their growth is commonly completed in twenty-four or thirty-six hours. Previous to their formation the skin is sometimes stained with red patches, which are the seat of considerable irritation. Having reached a certain size, many of the bullæ remain separate, or they coalesce with others; in either case, if the skin be unbroken, crusts are formed on the surface, of varying consistence, thickness, and colour, according to the nature of the secretion. Should they have burst spontaneously at an early stage, the bleb is often reduced to a thin piece of shrivelled cuticle, and the surface beneath is red and tender, especially if the bullæ have been torn. Left to itself, the skin soon regains its natural state, the preparatory change being denoted by a cuticular desquamation. Sometimes pompholix is ushered in by symptoms of constitutional disturbance, and occasional bullæ will often arise after the original blebs have disappeared. In the course of three or four weeks this kind of pompholix will usually have run its career.

General
pompholix.

As a more *general* disease, pompholix seldom terminates so speedily. Successive crops of bullæ will appear, and thus prolong the complaint for many weeks, or it may be indefinitely. In some cases we may judge of the probable extent and severity of an attack, from the duration of the previous premonitory symptoms, which may comprise a period of several months. After the disease is on the wane, an uniform dryness of the affected surface is usually observed; and on closer inspection, a number of oval or round patches, smooth and pale red, which have succeeded to the bullæ; in the intervals between them, the cuticle is semi-detached or rough, like the thin scales of eczema, and oftentimes of a brownish

hue. This change of colour is most marked where the skin is soft, as the inner aspect of the thighs or the dorsal surface of the feet. Any former irritation has now, in a great degree, subsided, but sometimes a burning sensation is experienced in the part towards evening; and as the skin recovers itself, it is apt to present a number of small but painful furunculi, each surrounded with a hard and red margin. Even when almost universal, the palmar aspect of the hands and the soles of the feet will be often free from bullæ, although they share in the general renewal of the cuticle, which afterwards takes place.

Pompholix may terminate fatally, but such instances are rare. The most severe case that has come to my knowledge was communicated to me by a professional friend, from whose notes I extract the following:—"The patient had always enjoyed excellent health to the time of puberty, but soon after this period she began to be feverish and languid. Removed for change of air, an eruption was observed one morning, it had become developed in the course of the night, on her chin; and of its true nature there could be no doubt. In the course of three weeks the disease had extended over the whole body, from the head to the toes, and specimens of the eruption might be seen in every stage. The bullæ ranged in diameter from sixpence to a crown piece; some had discharged their serum, and in others the cuticle had been torn off with the dressings. The meatus of the ears, the inside of the nostrils, the conjunctiva, whether of the eyes or lids, were covered, as well as the mucous membrane of the mouth: the upper and under surface of the tongue, the back of the pharynx and soft palate, all were thickly studded with bullæ. I am quite convinced that the

whole mucous track throughout the alimentary canal was similarly affected. She suffered great pain in her limbs and joints, and this quite independently of the sores arising from the state of the cuticle. It is now five years since the disease commenced, and during the last twelvemonths the eruption has declined. The skin is at this time (December, 1865) free, except that some ecthymatous pustules occasionally appear. Owing to adhesions having formed between eyelid and the globe, total loss of sight has resulted in one eye; and as the other is nearly in a similar condition, the patient is only able to distinguish light from darkness."

Pompholix
diutinus.

In *pompholix diutinus* of children, the first sign is usually an eruption of several minute red spots on the surface, generally on the abdomen and thighs, and afterwards on any part of the body. In the course of a day or two, each becomes the seat of a small vesicle, not larger than a pin's head, and contains a clear fluid. It is surrounded with a narrow red margin, and unless care be taken in the search, is very likely to be overlooked. The vesicles enlarge rapidly, and to such a degree as to attain, many of them, the diameter of a hazel nut in the space of twenty-four hours or less. It not unfrequently happens, that long ere the vesicle has reached this size it bursts, but the red patch on which it was evolved still spreads, and generally in a circular direction; in this manner it may attain one and a half inches or more in diameter. Further changes now ensue. The bleb may either shrivel or dry up in two or three days, and leave no trace, except a slightly rough and red spot, which at first sight might be mistaken for psoriasis; or it assumes a dark and somewhat wrinkled condition, adherent and surrounded by a red margin, and like, in character, to

ecthyma, save in the thinness of its crust; or, the border will show a narrow and raised rim, the remains of the bleb. These different conditions may very frequently be observed on various parts of the body. The general health is unaffected, and often remarkably good. The local irritation is slight, and only experienced at night.

In another class of cases, the disease is in like manner denoted by blebs which rapidly form in the course of a single night, and are neither preceded nor accompanied by any reddened state of the skin. The bleb may resemble an ordinary blister in appearance, and contain a clear serum; or may acquire great variety of colour, and partake of a dark or purple hue. The tendency of the blebs in this variety of pompholix is to pass into a purulent or semi-purulent state; and in either case the crusts which succeed in three or four days are characterised by thickness and irregularity. They are mostly of a yellow or brownish colour, and the vesicles from which they originate are without any inflamed base. In some places are seen considerable patches, consisting of blebs which have been united together. The later characters vary with the condition of the bleb. Thus, if of a purplish tinge, a white but superficial cicatrix commonly supplies its former place; otherwise, a red stain alone is seen, which finally disappears. Sometimes a red and thickened state of the integument occupies the site of the original bleb.

A curious form of *pompholix diutinus* is sometimes seen on the palm of the hand, and involves the fingers even to their extremities. The blebs are of small size, ranging downwards from that of a pea, and appear imbedded in the skin; along the fingers they are very minute. A

noteworthy feature of this species, which I have observed only in the adult, is the large amount of perspiration which attends the affected surface in an early stage of the disease; it is literally bathed with the perspiratory secretion. The hand at this period is also much swollen, and considerable itching and heat are felt. As the eruption declines, the part is left for some time red; and when the smaller blebs have at length disappeared, a number of superficial circular depressions for some time remain, surrounded by a slight ring of thin cuticle.

Solitary
pompholix.

The term *solitary* pompholix is used by Willan to express that species which is limited to a single bulla. This author states that it sometimes acquires the size of a hen's egg, a condition I have never seen. As soon as its course is ended, which generally happens in a few days, another bulla takes its place, either on the original site or in the vicinity; and thus the complaint may be continued for several weeks or months. It closely resembles, as Willan remarks, the effect produced by a blistering plaster. A young woman, an in-patient at the Skin Hospital under the care of Mr. Startin, thus produced several bullæ. At length it was discovered, that she was accustomed to apply at night a small cantharides blister, by which means she endeavoured to impose upon those whom she consulted.

Syphilitic
pompholix.

As a *syphilitic* complaint, the existence of which has been questioned on insufficient authority, pompholix is rare. It manifests itself in various ways. It may commence as an eruption of hard shining tubercles, which rapidly enlarge, and are of the same uniform dull red tint. They chiefly occur on the upper extremities and face; only in the latter situation they are relatively

smaller. Their shape is circular, and they range in size from a pea to that of a walnut. At the expiration of a week or ten days, fluctuation can be felt in the larger swellings, and, if a puncture be made, a sero-purulent fluid escapes. The tumours are soon converted into blebs, and present all the characteristics of acute pompholix. The following instance will serve as an illustration of this variety:—

E. D., a middle-aged unmarried woman, was admitted an in-patient, under Mr. Startin, October 15th, 1863. The disease at that date presented a singular appearance, and was situated on the lower third of the back of each forearm. Some of the spots were about a quarter of an inch in diameter, and mostly circular; others were nearly as large as a florin, and irregularly oval. All, except the largest, were considerably raised, and appeared not unlike red boils; their surface was also quite smooth. A few spots also of the same character were visible on the cheeks and forehead. She stated that an eruption of a similar nature in every respect appeared about four years ago, and again returned a twelvemonth since. The complaint occurred in the same situation, but was not so severe. The recent attack was of only six days' duration, and commenced as pimples, of the size of a small currant; some of them shortly united and formed large lumps. She always felt ill for a week or ten days prior to the outbreak, with depression of spirits and a feeling of lassitude.

She was ordered full meat diet: a teaspoonful in water of the mist. hydrargyri to be taken twice a day (one drachm contains the eighth of a grain of the bichloride of mercury and three grains of the iodide of potassium); to apply at night the unguent rubrum, and to use in the day a lotion of the oxide of zinc and water. October 17th. The swellings were much altered in character, and of a yellowish colour. The disease was evidently spreading, 19th. Lumps more pustular, and many of them confluent. 22nd. A large bleb, an inch and a half in its long diameter and one inch in its transverse, appeared yesterday morning on the right arm; most of the others have coalesced, and are covered with thin crusts. 26th. No farther change. The arms are covered with thin scales of a dark colour, caused by the zinc lotion. Irrita-

tion much less. 29th. Much better; face and arms nearly well. November 9th. Face is perfectly smooth; arms slightly rough. To be discharged.

In early life we sometimes meet with syphilitic pompholix showing a condition the reverse of the preceding, as in the undermentioned case, which is still under treatment. H. B., an apparently healthy and well-nourished child, was brought to the Skin Hospital under my care, July 10th 1866, with a number of raised flat elevations, from a pea to a horse bean in size, scattered over the trunk and extremities; some were even found on the scalp and the soles of the feet. Their general shape was oval, but several were irregular, from having become fused. Their colour was reddish, with a brown tint at the circumference. On the inside of the left arm, just above the elbow, was a distinct bleb, of the size of an ordinary marble, distended with clear fluid. His mother said that the majority of the swellings were originally bullæ; and this statement received confirmation from the fact, that small dark crusts might be perceived on the central part of some of the elevations.

Causes.

In early life pompholix affects both sexes in nearly the same ratio, but after puberty women are more frequently subject to it. Whatever the remote cause, the disease is apt to be reproduced through the agency of any powerful impression, as excessive mental anxiety or grief. I have known instances of a relapse on the occasion of each successive pregnancy. In women also it is often associated with a delay in the proper return of the catamenia, and this may continue for several months. It is not hereditary.

Diagnosis.

As it is to the presence of bullæ that pompholix owes its chief characteristic, the diagnosis will mainly depend

on the facility or otherwise with which they are detected. In many cases, and particularly when the disease is more or less general, the different stages of its development are exhibited at one and the same time: there is then no difficulty in tracing the course of the eruption from its commencement to its maturity, and from the latter stage to its decline. Even in those instances in which the complaint might be supposed to be impetigo, from the size of the scabs and their yellow appearance, a careful examination will seldom fail to detect bullæ in their primary, or at least in their opaque stage. When by the confluence of the scabs, large irregular incrustations have resulted, the margin of the latter often betray a similar or vesicular character. The final disappearance of the bullæ, and their termination in rough circular or oval patches, might suggest the idea of a scaly disease, but an inquiry into the history will dispose of any doubt that might be entertained on this point. In certain cases however, when the pompholix has been of a purely local kind, as on the mouth, cheeks, or hands, a roughness remains, which so closely resembles eczema, as to be readily mistaken for it in its chronic stage. In these instances, it is the previous history alone which enables us to arrive at a correct conclusion. Pompholix differs from erysipelas, in the absence of surrounding inflammation or infiltration of the integument; and from rupia, in its thicker and more prominent crusts, with more or less attendant ulceration. The vesicles of herpes are arranged in clusters, and seldom so large as in pompholix.

The constitutional treatment of ordinary pompholix in *Treatment.* an acute stage should be conducted on the same principles which guide our treatment in other cutaneous affections.

during a similar stage. The administration of antimony is seldom required; and in the choice of saline purgatives, we should select those of a mild kind; or at any rate employ them in smaller doses than in the more severe and inflammatory stages of eczema or psoriasis. In common with other vesicular diseases, acute pompholix runs a certain course. If the blebs be of large size we may puncture them with a fine needle, and sprinkle the surface as in herpes, with powdered starch. The irritation is most relieved by a lotion of the oxide of zinc: a drachm, with a like quantity of calamine powder and two drachms of glycerine, in eight ounces of water. Clean linen or cotton rags dipped in the lotion should be constantly applied as long as the disease continues.

In a second description of cases, when the disease is of a more general character and also severe, in which blebs are constantly forming on the genitals and other regions, we may have recourse to similar local measures; but the constitutional treatment should be of a different kind. Although these symptoms frequently seem to be of a syphilitic nature, they are seldom benefited by mercury. Arsenic, on the other hand, is an agent from the internal use of which great amendment often follows; and cases of pompholix, which have been subject to alternations of improvement and relapse for a lengthened period, will sometimes under such treatment, become to all appearance free from further trace of disease. In early life or before puberty, the liquor sodæ arsenitis in doses from two to six minims may be given twice a day, and is to be preferred to the liquor potassæ arsenitis at this age. My own experience of the use of arsenic in this form of pompholix is, that it is of the greatest service in the

adult, but that in infancy or childhood it is powerless to prevent a relapse. Cases have come under my care in which, within a short time after apparent recovery, the disease has returned in its original state; and I have known other examples in which arsenic has been persevered in, but only kept the complaint in check.

CHAPTER X.

PORRIGO.

General characters.

THE custom, heretofore, of arranging under a single denomination, diseases which are essentially distinct, is perhaps nowhere more apparent than in the so-called varieties of *Porri*go. In proof of this, I have only to mention the "six specific forms" according to Willan, of the complaint, which heads the present chapter. The ill effects of this nomenclature are, in many instances, perpetuated to this day; and the expressions *Porri*go *favosa* (favus), and *Porri*go *decalvans* (alopecia), suggest or at least imply, the idea of affections which possess something more in common than a prefix to their name; and yet none can be more unlike in their history, course, and termination.

In describing porri

go, I purpose to limit its signi-

fication to one disease, and accept the definition of it as proposed by Mr. Startin, viz. that it consists of an eruption of large flat pustules, covered with thick crusts, and is contagious; it occurs on an otherwise sound skin, without a surrounding inflammatory base.

Varieties.

The division of porri

go into P. simplex, P. larvalis, and P. scutulata, is an arbitrary arrangement, arising from certain peculiarities in form which the disease presents. Thus it is styled *Porri*go *larvalis*, when by the union of the crusts on the face, it bears a kind of resemblance to a mask. The eruption in this case

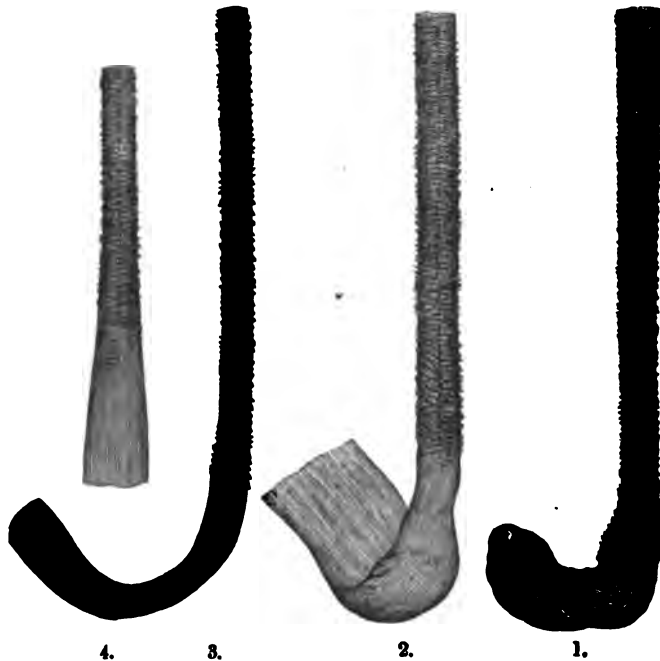
generally involves the cheeks and part of the nose in a single mass; or the same character may be equally assumed, when the forehead and eyebrows are simultaneously attacked. *Porriigo scutulata* is merely a term of the same complaint, in any case distinguished by the crusts being large and shield-shaped; they are often, as it were, stuck on to the surface. In *Porriigo simplex* the disease is seen in its mildest stage.

The earliest sign of porriigo is shown by an eruption of small flat pustules, not much raised, and containing, at first, a thin yellowish fluid, which soon concretes; and to the successive secretions in the pustule, the resulting scab owes its size and prominence. When situated on the scalp, the pustules are usually distinct, the intervening portion of skin being quite healthy. In this region they mostly select the occiput; they rarely commence on any other portion, although the lateral and frontal parts of the scalp may become successively attacked. The disease is easily recognised in many cases by simply placing the hand over the affected surface, when the characteristic elevations are at once detected. An enlargement of the cervical glands is another symptom which commonly attracts the notice of the patient: they may be felt as a chain along the inner border of the sterno-mastoid muscle; after attaining a certain size, they generally remain quiescent for months, and finally disappear. Frequently we find, coincident with the disease in the above locality, one or more of the fingers presenting at their extremities, or near the knuckles, painful boils or whitlows. Next in frequency to its occurrence on the scalp, and sometimes coexistent with it, a similar disease is discovered on the lips, chin, cheeks, or forehead; or any one of these localities may be

alone involved. In other cases the loins are the seat of porrigo, just above the buttocks, and in this situation the pustules are mostly separate. As the crusts dry, fragments of them become detached, and loose masses are often found scattered among the hair, should the scalp be affected. They are not however of the thin, yellow, or scaly character which so distinguishes eczema in its final stage. Although they are renewed, if the scales fall off at an early period, or become otherwise detached, the subjacent skin is only thin and reddened; seldom is it ulcerated. The patient complains of irritation and itching of the part, but this is not severe; nor is there, except in extreme cases, any signs of constitutional disturbance.

Microscopical characters of the hair.

Although I have been unable to discover a parasite



(vegetable) in porrigo, the hair presents, in a vast number of cases, the following curious condition, which is not seen, as far as I know, in any other affection :— the bulb becomes flattened, and expands into a broad and thin plane, which terminates in an even edge. In the figs. 2, 3, and 4, the expansion of the hair bulb is very evident. Fig. 1 is club-shaped at the root, but this character is witnessed in other cutaneous complaints. The lower part of each hair, extending to the bulb, exhibits a series of irregular rings; but this again, is not peculiar to porrigo, although well exemplified in this disease.

Porrigo is a complaint most common in childhood or in infancy. It attacks both sexes in a nearly equal degree. Of 400 cases, in Mr. Startin's practice at the Skin Hospital, which occurred between the middle of June, 1860, and the end of January, 1863, I found 204 were females and 196 males; a difference of only 19:20 between the two sexes. In this estimate no account is taken of another and considerable class, in which the disease has spread to the other members of the family. I have recorded those cases only which have presented themselves at the hospital, and were under my own observation there.

The various periods of life, at which the development of porrigo took place, is exhibited in the annexed table. Of 400 cases

292	occurred at and under the age of 7 years.
46	between 7 and 14 years of age.
35	„ 14 „ 21 „
27	above the age of 21 years.

The greatest age at which it occurred was that in a man aged 55 years. The remainder were all below

40 years. Of the 292 instances, 65 took place within the first year; the youngest being six weeks.

**Complica-
tions.**

The diseases most frequently associated with porrigo are scabies and eczema. This can excite little surprise, when we recollect how often the irritation consequent on scabies sets up latent affections of the skin. Eighteen cases are described in the above total as thus complicated. These may happen at any age from 4 months to 40 years. Eczema was observed as an accompaniment of porrigo in 20 instances, which gives the ratio of its complication exactly as 1 : 20.

Causes.

The causes of porrigo are obscure. In many cases the disease is communicated from one child to another; but it is seldom observed to extend to the elder members of the family. Uncleanliness predisposes to the complaint, which though sometimes seen in better classes of society, is rare in them when compared with the poor and destitute. Dentition seems to act as a predisposing cause in many instances, and sometimes the febrile disturbance excited by vaccination is regarded as such.

Diagnosis.

In most cases of porrigo the disease is readily distinguished. The peculiar appearance of the scab, and the absence of any inflamed areola, unless the part has been irritated, distinguish it from the rest of the pustular group. In impetigo the pustules are small, and like rupia, are situated on a red ground. The latter complaint is generally attended by constitutional derangement in the young subject: it is moreover non-contagious, and as a rule, accompanied by more or less ulceration. When impetiginous eczema affects the scalp in children, and is at the same time severe, it occupies almost the whole surface, and the discharge is considerable.

This is seldom the case in porrigo. When the latter is modified by struma or syphilis a difficulty may occur with respect to its diagnosis. Strumous porrigo often produces extensive but superficial ulceration of the affected part, as well as other symptoms denoting a scrofulous taint. Syphilitic porrigo is commonly witnessed a few weeks after birth, or at a later period; and is either connected with a specific history, or some abnormal condition of the skin, which removes it entirely from the ordinary class of porriginous complaints; as in the following instance, which came, a few months ago, under the care of Mr. Pollock:—The patient, a little girl of between four and five years of age, was admitted into St. George's Hospital with a number of circular spots on various parts of the face. Some were smooth, like scars, and exactly resembled those resulting from tubercular lupus; others were raised, and covered with thick crusts, and a third species were tubercular. Over the lower part of the loins some red and circular stains were noticed, and one or two suspicious tubercles were present on the skin near the labia of the genitals. There was no history of contagion, and the child had been affected in this way for two years and upwards.

However unsightly the appearance of the disease may *Prognosis.* be from the size and number of the crusts, there are few cutaneous complaints which are sooner benefited by proper treatment than porrigo. Two or three weeks will often work a material change in this respect; the scabs are then no longer found, and only a reddened surface indicates their former locality. The hair suffers at most but a temporary loss, should the complaint affect any portion of the scalp. If based on syphilis or struma, porrigo is then more difficult to subdue, and no such

speedy relief should be anticipated, as when it occurs in its ordinary form.

Treatment. When the hair is implicated and collected together in masses it should be at once cut short: this should always be the first step, and will not only afford great comfort to the patient, but facilitate the local treatment. The surface should then be washed with the yolk of egg and warm water, or thin oatmeal gruel to remove the crusts entirely. No application, in my experience, answers so well as a sulphur ointment, containing from ten to fifteen grains of the iodide of sulphur to an ounce of cerate; or even a less proportion, should the skin be extremely sensitive. The compound sulphur ointment of the *London Pharmacopœia* is also very serviceable, and little inferior to the preceding. The internal treatment should be directed solely to the improvement of the general health. In strumous porrigo, cod liver oil internally, or cinchona in decoction with a mineral acid, should be prescribed. The application once or twice a day of a mild mercurial ointment, as the unguentum hydrargi nitratis, dil. seems to have most effect in promoting cicatrisation. In syphilitic porrigo, the internal use of iodide of potassium sometimes succeeds better than mercury. In the case above quoted, this remedy given in doses of two grains with a drachm of the syrup of the iodide of iron, appeared the only one which had any influence in finally relieving the complaint.

CHAPTER XI.

IMPETIGO.

IMPETIGO is a complaint characterized by small or ^{General} psudaceous pustules, distinctly yellow, and seated on ^{characters.} a red base. Occasionally isolated, they are more commonly found in clusters, and thus constitute a well-defined patch, often irregular in shape, and indefinite in size. The disease is highly inflammatory, and attended by considerable heat and itching of the affected part.

Impetigo is not communicable by contagion. As a result of eczema, and affecting the scalp, it is frequent in early life, and at this age is recognised by its pustular character. The pustules may be closely packed, or widely separate; in either case, should they be detached, slight ulceration of the skin may be seen, concealed by a thin and yellow fluid, which rapidly concretes. The secretion is copious, and poured forth beneath the scabs. The hair, although matted together is unaltered in condition, however chronic the disease may ultimately become.

In the adult, impetigo is often seen on those parts of ^{Situation.} the face which are covered with hair, as the eyebrows, beard, or whiskers. The skin is uniformly red, but without any induration; in an early stage it is studded with numerous small pustules, which are often pierced in their centre by a hair. In many of these instances the eruption is limited to the hairy portions of the face,

one or all of which may be attacked in succession. Sometimes it is confined to a single spot on the upper lip; or to the apertures of the nose; or it may involve the eyebrows alone, both of which are generally affected. Situated in the latter region, it may extend for a variable distance to the chest, forehead, or eyelids. If severe, it may be followed by a loss of the eyelashes, or by ophthalmia.

Impetigo is seldom preceded by any feverish symptoms. One or more small red patches first appear, which give rise to itching, and on these are developed yellow pustules, disposed in a group, but not much raised above the level of the skin. The disease spreads by an extension of some portion of its circumference, and having reached a certain size, remains for the most part stationary. As in lepra, it is most usual to find the process of recovery commencing in the centre, while the circumference presents a segment of separate pustules. Besides the situations above named, impetigo may occur on any part of the trunk or limbs. In the latter locality, it is generally observed near the bends of the joints, or on the hands or fingers: sometimes it is found alone on the lips or nails; or it may be a result of syphilis.

Impetigo
sparsa.

Impetigo *sparsa* is a term applied to the eruption, when the pustules assume a scattered form. The disease runs in general a rapid course, and is accompanied by considerable pruritus. Supposing the complaint to appear on any given locality, as the back of the hand, the intervening skin between the pustules is red, thickened, and rough, and in the acute stage there is likewise much infiltration in the subcutaneous tissue. As the disease shows a disposition to subside, the discharge dries up, and ceases to be renewed. A few small

and thin scabs are observed on a pale red ground, which slowly disappear, and finally leave the skin in a natural state.

Impetigo *figurata* differs from the above chiefly in the arrangement of the pustules, which occupy a more circumscribed space. If seated on the limbs, corresponding portions are similarly affected, the skin is of the usual red tint, and slightly raised, and the same symptoms arise as in impetigo of the face. With the disappearance of the scabs the skin loses its bright colour, and gradually fades. It is still however for some time tender, and liable to excoriate, so that unless care be taken, a relapse often occurs. On the lower extremities, and particularly about the ankle, although they may exist elsewhere on the foot, the scabs are sometimes very thick, wrinkled, or fissured, and of a dark colour. In such a case the disease is termed impetigo *scabida*. There is also infiltration of the subcutaneous structure, and the nails are broken or loosened from their attachment. After the crusts are removed, the skin long remains darkened in colour, or is converted into chronic and irregular cicatrices.

Impetigo of the lips is generally limited to so much of their mucous surface as is visible externally. Small and adherent crusts are found on the part, but the secretion is always scanty. The patient pouts the lips, and discomfort is experienced in taking food. The disease is much disposed to lapse into a chronic state, and then a series of transverse cracks form, which sometimes bleed, and are partially covered with cuticular shreds rather than crusts. The complaint is one of youth, and most common in young women or girls.

The nails, particularly in women, are occasionally affected with impetigo. As a complaint caused by an

extension of the original disease from the fingers, it may be remarked that the latter are covered with a quantity of thick yellow and irregular crusts, showing between them a reddened skin. The nail becomes elevated together with its matrix, and considerable swelling is seen around its root. The lunula is destroyed, and an interval is left between this and the skin, which exposes the surface beneath. The free edge of the nail is also covered with thick crusts, and the nail itself becomes finally detached. In some cases the disease is entirely confined to the nails, the earliest symptom being an inflammatory margin of the skin at the root, which is first attacked, and this is followed by destruction of the whole nail. Both hands and feet are sometimes attacked; and in the inflammatory stage are the seat of great pain.

Syphilitic
impetigo.

In addition to the usual constitutional symptoms, there are one or two points which it may be worth while to remember in connexion with the presence of *syphilitic impetigo*. First, the disease may occupy a great extent of surface. I have known it, when situated on the loins, measure eight or nine inches in one direction and almost as many in another. Not only do the scabs lose in the later stage their soft consistence and become dry, but it is at this period that its tubercular character is sometimes very evident. The tubercles are broad rather than prominent, and the intervals between them approach in character to sound skin. When occurring on the abdomen, a large patch is seen, mostly red, and traversed by several concentric rings, more or less covered with scabs. Notwithstanding their size, the patches of syphilitic impetigo are rarely painful. The patient is out of health, feels depressed, and unequal to continued exertion. This

variety of impetigo is not confined to the trunk, but may be developed elsewhere, as on the extremities or the face.

Impetigo *granulata* is distinguished by the number ^{Impetigo} and closeness of the granulations on its surface, but there ^{granulata.} is little, if any surrounding inflammation. It is for the most part met with in the delicate skin on the sides of the fingers, or on the dorsal surface of the foot. The secretion is slight, and the affected part long remains without altering its character.

There are several diseases of the skin that may be ^{Diagnosis.} mistaken for impetigo:—1stly. Sycosis, which it often resembles in its choice of locality; but this complaint less frequently affects the sides of the face, and is generally restricted to the upper lip or chin. In impetigo the scabs are thinner, and the pustules small and scarcely elevated. The diagnosis is often rendered difficult from the surface of the skin being raised, which in either case is slightly red; and from the pustular character of each eruption. As sycosis becomes chronic, it sometimes exhibits little bald patches from which the hair has dropped out, and is generally accompanied by more or less thickening of the subcutaneous tissue, as well as discoloration of the skin: in these points it differs from impetigo. 2ndly. Scabies, especially when it involves the back of the hand, or the thin skin over the front of the elbow. Apart from any history of contagion or discovery of the acarus, scabies does not show that tendency to recur which is betrayed by impetigo, nor do we find in the former any inclination to heal in the centre, while its margin is unchanged: the pustules of scabies are also more hemispherical and distinct; and it is seldom, when affecting the hands, that we do not detect a suspicious pustule above the wrist or along its inner margin. Some-

times the diagnosis is more complicated, as for example, when the disease is situated on the front and inner part of the thigh. The pustules of scabies in this locality simulate impetigo, but the former is generally most severe at Poupart's ligament, and at the same time rarely absent on the penis, although not in a pustular form. Again, scabies spreads rapidly, and the itching by which it is attended differs from the less severe irritation of impetigo. 3rdly. Porrigo, unless it be connected with struma, is distinguished from impetigo by its situation; by the shape of its crusts, which are more raised and prominent; and by its property of contagion. Lastly, lupus may resemble impetigo, when the carpus is the seat of the latter disease. The scabs of lupus, if we carefully examine them, are more firmly adherent, and their removal is almost sure to be followed by bleeding. The history too shows that lupus, in the majority of instances, has existed for years, and is not a symmetrical complaint, i.e., one attacking a like locality on the opposite side. Reference has been more than once made to the relapsing nature of impetigo. This is one of its great characteristics, but it is not much affected by the seasons. Sometimes the patient will escape a return for one or two years, although he may have been suffering for several at different intervals. As a strictly local affection, I have observed that impetigo generally recurs in the same spot. Thus, if the eyebrows or any other part be attacked, the disease is more likely to show itself again in this locality, than anywhere else. Sometimes we meet with instances where impetigo has invaded the fingers, and the nails have been repeatedly shed and as often renewed.

An opinion has been expressed by Rayer, that im-

petigo is an affection more amenable to treatment than *Prognosis.* psoriasis or lichen. This is without doubt true, provided it be met with in an early stage, and in certain situations. Under proper treatment, the disease usually subsides in the course of a month or six weeks; or is so far advancing towards recovery, that this stage is not long delayed. In other cases, dependent on syphilis, however large the extent of surface involved, a favourable prognosis may be safely given; the patient, however, must be content to submit, and that for many months or even two or three years, to treatment. Chronic impetigo is sometimes very intractable when occurring on the face; and particularly on the eyebrows, or the mucous membrane of the lips. Impetigo granulata is also an obstinate variety of the disease.

Little constitutional treatment is required in children, *Treatment.* who are otherwise healthy. In impetigo which is due to dentition, and accompanied by febrile symptoms, from three to six minims of ipecacuhana wine may be administered every four or six hours, and the gums should be lanced, if hot and dry. Should the milk of the nurse or mother be at fault, the child must be provided with a change, or weaned if old enough. In the latter event, the child should be furnished with a sufficient quantity of nourishing food, as strong beef tea; or allowed to suck the lean part of a mutton chop. The crusts or scales should be treated in the manner recommended in cases of eczema impetiginodes occurring at a similar age.

In those instances of relapse, which are so frequent at a later period of life, the exhibition of mercury and arsenic will be of much benefit; and also in that local variety of the disease of the nails, unconnected with any

specific cause. In chronic or confirmed impetigo, mercury, in my experience, has proved of little advantage. Such cases mostly improve under arsenical treatment, the same precaution being taken in its administration as suggested when eczema and its sequence, impetigo, was considered in a previous chapter.

Acute impetigo, especially if of recent origin, is often relieved by simple remedies. Supposing the complaint to appear on the hand in a patient otherwise in good health, a mixture containing steel and from one to two drachms of the sulphate of magnesia for each dose, will generally suffice for internal treatment. Locally, the ammonio-chloride of mercury, a scruple to an ounce of lard, should be applied night and morning. In these cases it is very necessary that the hand be supported in a sling, and kept perfectly quiet, as long as the complaint continues. Nothing sooner lessens the amount of swelling. With respect to internal remedies, a method of treatment similar to that described above applies to other examples which are also acute, whatever their situation. As a rule, however, if the affected surface be of considerable size, a preparation of sulphur as a drachm of the precipitate to an ounce of lard with the addition of three or four grains of calomel, answers better as a local application than mercury alone. When impetigo involves the hair of the face, the latter should be cut close and the scabs removed before the ointment is used.

Baths.

Sulphur baths, whether artificial or natural, are recommended by some writers for impetigo. Rayer speaks of them as suitable at any age, for the weak as well as for the strong. I cannot say that I place much faith in them, as impetigo is seldom a general disease

unless it be complicated with syphilis, when these baths can scarcely be expected to relieve it. For the sake of personal comfort, an ordinary water bath may be used, as often as occasion requires.

Whether in the old or young subject, and impetigo scabida may occur in both, the disease will usually be found to arise from a weakened state of the general health. It should always be our aim to improve the latter by means of bark with the sesquicarbonate of ammonia, or the chlorate of potash, if the patient has been already subject to mercurial treatment in excess; the ammonia, of which five grains for a dose will suffice, should not however be continued for more than ten days or a fortnight, as it is apt after a time to lose its effect. If the state of the urine exhibits any alkaline, or even a neutral tendency, we should do well to withhold it, and substitute for it from five to ten minims of dilute hydrochloric or nitric acid. In children, steel wine or some other preparation of iron is often more serviceable than vegetable tonics. It is very essential to remove the thickened adherent crusts of this disease.

In impetigo of the mucous membrane of the lips much benefit may be derived from the internal exhibition of mercury and arsenic, if the disease be met with at an early stage. The patient may also apply a mild form of mercurial ointment at night. In cases of relapse or in a chronic stage, it is more serviceable to resort to a lotion of this kind; acid nitric dil. one drachm, liq. hydrargyri bichloridi one ounce, and water four ounces. With this the affected lip should be painted twice a day with a brush. In more severe instances, the acid nitrate of mercury seems to be the only local remedy which asserts any influence over the diseased surface.

CHAPTER XII.

ECTHYMA AND RUPIA.

THE term *ecthyma* is used to notify a pustular disease of the skin; the pustules are large, "phlyzaceous," and encircled by a red and inflamed margin. *Rupia* rather signifies a complaint vesicular at its commencement, and which afterwards approaches in character to *ecthyma*. The close analogy between these affections has been remarked by nearly every writer since the time of Alibert; and as each disease pursues a similar course, we may regard them as one, divisible into the following kinds:—*rupia simplex*, *rupia cachectica*, and *rupia escharotica*.

Simple
rupia.

Simple rupia or *common ecthyma* is not often attended by any constitutional symptoms, nor are the latter severe when they do occur. The pustules vary in size from a pea to a marble, and when first formed are like blind boils, attended by a slight shooting pain. For the first three or four days they increase in size, and then suppuration begins in the centre, but the swelling retains its surrounding hardness. At the end of about a week the pustule reaches maturity, and it either bursts or a greenish-yellow or dark scab is formed. If the latter be forcibly detached, much pain is felt and an ulcer is exposed, which becomes the seat of another scab. If allowed to remain, the crust usually falls off, and the ulceration is very slight. Sometimes

several scabs unite, as when the eruption is situated on the face, but as a rule they are distinct. The locality generally selected is the lower part of the loins or the inferior extremity, sometimes the neck and upper extremity, but rarely the face. In old patients the pustules are larger than in the young subject, and sometimes surrounded by a livid base, whence the name of *ecthyma lividum* applied to this species by Willan. The scabs occupy a long time in separating, and the skin around is hard and tender.

As a *cachectic* or *syphilitic complaint*, rupia, in the majority of instances, commences as a small subcutaneous tubercle, which is smooth, shining, and of a pale red colour. There may be only a single growth of this kind, or a cluster; and should the general health give way, successive groups of tubercles will arise, and the complaint be observed in every stage. When the disease is confined to a single locality, a frequent situation is that near one of the larger joints, as the knee on its inner side; or the thigh immediately above it; or the front of the wrist. Sometimes the face, scalp, neck, or upper extremity is attacked, or the anterior aspect of the leg. The period at which suppuration takes place in the tubercles is uncertain; thus it may happen in a few days, or be delayed to several weeks. If a crust be allowed to form, it is deeply set and very adherent; beneath is an ulcer, which mostly varies in depth with the thickness of the scab over it. Should there be a group of ulcers, their average size is seldom more than about half an inch, but if occurring singly, the ulcer becomes often as large as a florin; and sometimes encloses a space of several inches in diameter. The edges are cleanly cut and circular, as though the part

had been scooped with a punch. On introducing a probe the margin is considerably undermined, and a dark red or purplish zone extends for some distance around it. Sometimes the affected surface shows a series of small and deep ulcers, filled with a sero-sanguineous fluid, which is offensive; or they contain a dark slough; or a tubercle is found at the base of the ulcer. As the disease improves under treatment the discharge diminishes, and becomes more healthy, but the skin does not recover itself and resume a natural condition; it is somewhat depressed, and long continues of a dark red colour. Besides the above characters, one or more points are to be noticed in connexion with the ulcers. Not only is the discharge from them commonly tinged with blood, but they are easily provoked to bleed. The disease is also apt to return. In chronic cases we often discover traces of the same malady in other parts of the body, or that an old cicatrix has given way. Much pain is experienced, although this symptom may be postponed to a later period. The bone sympathises, when the ulcer occupies the scalp, or is situated over the tibia; and sometimes so great is the pain in the latter case, especially towards night, that the patient can scarcely walk.

Escharotic
rupia.

Rupia escharotica is the most severe of any variety. Occurring generally at an early age or in middle life, it is almost always associated with a bad state of the constitution. It begins as a dull red or livid spot, which soon becomes the seat of a dark sanious effusion. Whether the bleb bursts of its own accord, or is broken by accident, it discloses a deep and foul ulcer. In children, rupia escharotica usually appears on the genitals, or the legs, or scalp. These are its usual situations. If extensively developed at this time of life it gives rise

to severe constitutional disturbance. In the adult I have known the disease to destroy, in a few days, the greater part of the ala of the nose, the full amount of mischief not being apparent until the scab was removed. The latter is generally of a dark colour, and so is the secretion, which is very offensive.

Rupia is usually a disease of debility. When of constitutional origin, it will be found existing in that state of the system termed cachexia; or as a consequence of syphilis, or scrofula. The health, damaged by exposure and dissipation, becomes a ready prey to it. In some cases, escharotic rupia has followed scarlet or typhus fever, or other exhausting and allied diseases. In the poorer classes rupia is frequently found to coexist with scabies. The most general cause of the complaint in people of this class, as well as the occasion of a relapse, is want of nutritious food. Such instances are common in hospital or public practice, in which the patient often presents himself with a history similar to that told on a former attendance. As long as labour is abundant and food plentiful, the disease is checked, but these conditions being removed, it quickly reappears.

There is seldom much difficulty in the diagnosis of rupia. No other disease commences as a tubercle, and runs a similar course. In the size and thickness of its crusts, pompholix, particularly in early life, bears a near resemblance to it; but this latter complaint is essentially vesicular at its origin, and as the scabs fall off, they leave rough and reddish surfaces rather than an ulcer: and secondly, the constitution is generally much less affected in pompholix. The scabs of rupia are unlike those of porrigo, in being surrounded with a red ring, and in the conical or limpet shape they occasionally assume: moreover, rupia occurs at any age, and is never

contagious. Lupus, when situated on the nose, is a disease most likely to be confounded with rupia; but the former is usually more chronic, and its secretion seldom so great.

Treatment. The constitutional treatment of rupia is most important. In the simple form of the disease, we may begin at once with a tonic; of which one of the best is the syrup of the iodide of iron, especially in early life. In all cases the crusts should be removed, and the exposed surface, if ulcerated, treated with black or red wash, or the unguentum elemi, according to the condition of the granulations. In escharotic rupia, the vital powers of the patient must be supported by a liberal diet, malt liquor, or more powerful stimulants. When rupia is the result of syphilis, congenital or otherwise, mercury is I believe one of the best remedies we possess to relieve it. No mode is so efficient in its administration as the mercurial vapour bath, particularly if the complaint be severe, and the patient in feeble health. The iodide of potassium is a remedy of which, taken alone, I have had little experience. I have, however, seen it employed with great success in several instances of rupia, undoubtedly of a syphilitic nature, under Mr. Pollock's care, in St. George's Hospital. In such examples the dose administered was ten grains given twice or thrice a day. Not only has the rupia disappeared under its influence, but a progressive improvement took place, shown by the increase of the weight of the patient from day to day. If it should occur that this increase ceases, or other signs arise, which indicate any injurious action of the remedy, a purgative is administered, and the iodide of potassium omitted for some days before it is again repeated.

CHAPTER XIII.

LUPUS.

To express their ideas of a disease in a figurative form, was a method not unfrequently selected by the older writers; examples of which survive to this day, as elephantiasis, sycosis, and molluscum, where some animate or inanimate object supplies the symbol of comparison. In the present instance, under the similitude of a wolf is signified a disease, remarkable beyond all others for its devouring and destructive power.

The chief characteristic of *lupus* is to be found in its ^{General} ^{characters.} devastating agency. Wherever situated, the skin is there destroyed, and finally replaced by a permanent cicatrix. It is, however, by no means limited in its ravages to the skin; sometimes it occasions an utter obliteration of the features; in other cases, it ends in a loss of cartilage; and in more rare instances of bone. Generally of tubercular origin, it may be succeeded by ulceration of a most active or else of a most indolent kind; or again, no ulceration whatever may be observed throughout. Never contagious, and most seldom hereditary; situated commonly on the face; disposed to bleed from slight causes, and almost always aggravated by exposure; *lupus*, from its diversity, is not easily described in exact terms. It will be my endeavour to point out the more prominent features of each variety of *lupus*; to show the influence of age and sex in its development,

rather than attempt any definition, which should comprehend a complaint so varied in character and appearance.

Varieties. Lupus admits of the following divisions:—Tubercular lupus, strumous lupus, exedent lupus, syphilitic lupus, impetiginous lupus, lupus with hypertrophy, and erythematous lupus.

Tubercular lupus. *Tubercular lupus* is strictly a disease commencing in early life, for the most part appearing between the ages of two years and seven, and seldom primarily developed beyond the period of puberty. The affection is usually represented by a number of distinct tubercles, forming an isolated patch, and disposed on some part of the face, as the cheek or nose. The tubercles are of a reddish hue, slightly flattened at their summits, and in size ranging from a rape seed to a split pea. Their colour is modified by circumstances, and although at times pale, it is generally heightened by such agents as mental excitement or the warmth of a heated room. Beginning as a tubercle, frequently not larger than a pin's head, the complaint may remain stationary for months, ere it exhibits any signs of increase. At length enlarging at its circumference, it presents an irregularly flattened surface, slightly elastic to the touch, of a dull or imperfectly red colour; and bounded by a well-defined margin, which in the direction of its growth is studded with smaller and similar deposits. Sometimes crusts, not unlike those of eczema, may be observed upon it, which if forcibly removed are followed by bleeding, and even by ulceration, or the same result may happen from a blow; but if undisturbed, ulceration does not occur. In other instances, scales rather than crusts are formed, of the thinness of tissue paper, adherent in their centre, and curled and white at their edges. Under treatment

the tubercles disappear by interstitial absorption rather than by ulceration, and leave in their room small white and indelible cicatrices. Sometimes the patch, level and of a whitish hue in the middle, shows at its border a number of irregular tubercles; or its whole surface is preternaturally smooth, mottled, and dotted with tortuous capillaries. Seldom at any time of its career is tubercular lupus attended by pain. It is a source rather of discomfort than distress to the patient, whose health continues unaffected. Associated in a slight majority of cases with struma, as proved on inquiry into the history, although not often evincing any of its external signs, tubercular lupus exhibits a slowness in its progress unequalled by any other variety; and it is not infrequent to find the disease, originating as just described, after the lapse of twenty years and more, not exceeding in diameter that of a crown piece.

Commencing like a small boil *strumous lupus* is distinguished by its tendency to pass into a state of superficial ulceration, unaccompanied mostly by pain. The sore thus established does not readily close. Sometimes it is all but healed when ulceration breaks out afresh, and the same process is repeated again. It is not so destructive as the exedent variety, and pursues its ser-piginous course with slight progress for years. When a part has healed for a considerable time, the central portion will in many cases be smooth and dull white, firm, and quite devoid of all natural resiliency. In other cases, the greater part of the surface appears more or less glazed, with a few thin yellow crusts upon it, concealing a number of small and superficial ulcers; or the disease, soon after its origin, may lie dormant for a long interval, and then give rise to a circumscribed sore covered with

a scab. Such is the varied course which strumous lupus may assume. When seated on the cheek, which it is in most cases, eversion of the lower lid sometimes takes place from the contraction of the cicatrices, and exposes the mucous membrane of the conjunctiva; and hence a constant overflow of its secretion, to the annoyance of the patient; or beginning on one cheek, the complaint may pass ribbon-like beneath the lower jaw to a similar spot on the other side. Another situation not very uncommon for strumous lupus is the back of the hand or the forefinger; and it is more usual on the upper than the lower extremity.

Exedent
lupus.

The *exedent* is the most frequent variety of lupus. Taking its rise as a small hard tubercle, it merges after a variable period into the suppurative stage, and becomes then covered with a scab. The disease may be circumscribed and limited to a single spot. More commonly other tubercles appear in the immediate vicinity, which pass through a similar stage to the first. When situated on the nose, for which *lupus exedens* seems to have a special predilection, a number of crusts may generally be seen to involve its lower part, adherent and of a greenish-yellow tinge. Should they be removed, a thin light yellow fluid may cover an excavated ulcer; or in place of any secretion, a red granular surface only is left, which bleeds on the least pressure. So soft indeed is the part, that several of the granulations are often entangled between the blades of the forceps employed to detach the scab. *Lupus exedens* sometimes attacks the nose from within; its mucous membrane first becomes increased in vascularity as well as swollen at a certain spot, and a small crust is established, which in most cases is picked off by the patient. Ulceration still goes

on beneath a new crust, and at length perforation takes place, should the septum be the seat. *Lupus exedens* may exist in other parts at the same time, as on the neck, or little toe, or on one of the fingers, proceeding in its course to the complete destruction of the latter; or it may spread over the whole face and scalp. Sometimes no pain of any kind is experienced; occasionally a sense of itching is felt, worse towards night and generally after meals, or only after certain articles of food have been taken. The disease is almost invariably increased by exposure to cold and wind, and often aggravated at the catamenial period. The consequences of *lupus exedens* vary with its situation and the stage at which it has yielded to remedies. Thus, if treated at an early period, as when on the nose, no visible alteration may remain beyond a slightly indented scar; or in a stage removed from this, the end of the nose may be pointed and irregular; or should the cartilage be destroyed, a smooth and polished appearance is given to that portion which remains. On the cheek, the resulting scar if small in its outline is sometimes of a colour inclining to purple; but when more extensive or in other parts, the cicatrices constitute white and thickened bands similar to those produced by a burn. When the disease encircles the mouth or one or both of the nasal apertures, they sometimes become contracted as cicatrization ensues. *Lupus exedens* may occur on the upper lip immediately below the septum of the nose, the cartilage of which, as well as the lateral cartilages themselves, soon become involved in one common destruction.

Syphilitic lupus is sometimes manifested by the effects of constitutional syphilis being superadded to the ordinary signs of lupus, particularly of the strumous and

exedent varieties. Seldom can any reliable conclusions be drawn from the patient's history. Its situation and its multiplicity should be taken into account. Thus it may attack the forehead or the bridge of the nose, and invade at the same time a great part of the upper extremity. I have seen it occasionally attack the buttocks: a serpiginous or horseshoe form is very characteristic of a syphilitic taint. Sometimes we observe one or several patches on various parts of the body, having a smooth centre but a raised and rugged margin, partially covered with crusts and much inclined to bleed. These patches are not uncommon on the forearm near the wrist; a case in a child of about eight years of age was under my care at the Hospital, in which the complaint was situated on the calf of the leg. In another and opposite kind, but not the less syphilitic, the disease destroyed the lower part of the nose in a young woman, and the margins were surrounded with dense and quickly-growing tubercles. It is not necessary that the complaint be severe in order to be syphilitic, but it may nevertheless owe its severity to such constitutional taint. The worst case of the kind which has occurred to me was that of a boy aged 13 years, an out-patient of the Hospital, who had been suffering from this complaint ever since he was three years old. The nose became quite destroyed, and the mouth reduced to an aperture scarcely large enough to admit the finger. None but those about him could understand his altered articulation. The teeth were nearly all destroyed, and at a subsequent period he lost his left eye.

Impetiginous lupus.

Impetiginous or papulo-pustular lupus is a name applied by Mr. Startin to that species of lupus the external characters of which resemble those of impetigo.

The disease mostly occupies a considerable portion of the face, either as one large and irregular patch or else subdivided into smaller groups. In any case the supuration is abundant, and the crusts are yellow, and easily separated. The latter are neither curled at their circumference, like those of eczema, nor yet raised, as in porrigo; and if removed are quickly renewed. When the scabs or crusts are circumscribed, the surrounding skin is often inflamed, but it still retains its natural elasticity. Impetiginous lupus is often engrafted upon struma. As soon as recovery has set in, the supuration either becomes confined to one or two small spots, which at length disappear; or the whole surface soon ceases to suppurate and is covered with small thin and dry crusts, which disperse slowly.

Lupus with hypertrophy is rare in comparison with other kinds of lupus. It is characterised by faint or dull red tubercles, very broad at their base, not much raised, and more or less covered with cuticular desquamation, which is soon regenerated. The disease is generally confined to the face, but may affect the lower extremity. As a rule its boundaries are well defined. The hypertrophy may long remain limited, as when it commences on the nose; but sooner or later, fresh tubercles are evolved on one or both cheeks, and as they coalesce a singular appearance like a mask is given to the face. The tubercles commonly undergo a kind of interstitial absorption, and leave behind them white cicatrices, traces of which are often evident in the intervals between them. Sometimes however small impetiginous-looking crusts may be seen covering the tubercles, and on removing them minute patches of ulceration remain.

Erythematous lupus is a variety which differs in most

Erythema-
tous lupus.

respects from those already named. It is much more prone to appear in the female, and in either sex is developed at a later period than other kinds of lupus; seldom commencing until after puberty, and usually deferred to adult age. When it has existed in men, I have frequently noticed it in those who have either led a seafaring life, or in others who lived near the sea coast. Mr. Startin informs me that the disease is not infrequent in Italy, and he has met with several cases of it in patients, who have long resided in that country, and by whom its origin has generally been attributed to the bite of a mosquito. The earliest symptom is a patch, commonly well marked, of erythema on one or both cheeks, or the nose, and often at the same time on the lobes of the ears. Little attention is paid to this redness, which on the cheeks is at first seldom more than temporary, although afterwards permanent. In some cases the disease breaks out in different parts, as on the eyebrows, or the upper lids, or on the scalp near the forehead; or, instead of the lobes of the ears, it will invade their exterior surface or vicinity; or the face may show a number of separate, circular, and red spots; in others it will be chiefly confined to the lips, where it is very likely to develop itself in the form of distinct patches on the mucous lining of the mouth. After an uncertain and sometimes a brief period, varying in this respect from a few weeks to several months, there arises on one or more of the above erythematous patches a thin scale, like that of psoriasis, which is soon succeeded by others of a similar kind. If an attempt be made to detach this structure, it will be found to adhere closely to the skin, which commonly bleeds on its removal; and on further examination a number of fine delicate processes may be observed on its under surface, which dip into

the follicles of the skin. Sometimes, in place of these scales, we detect a sort of white scurf, equally adherent to the surface; and in other instances, a quantity of fine cuticular desquamation. The period at which we meet with interstitial absorption of the skin, so eminently characteristic of this affection, is extremely variable. Thus it may begin within the first five or six weeks of the outbreak of the complaint, or its occurrence may be delayed to a far later date; it may be compared to the dotted appearance which the rind of an orange or lemon presents when cut, and is never in the least hard; or becoming white with age, it may be likened to delicate network. In its progress the disease is also uncertain. The subjects of it are in otherwise good health, and often have a very fair skin. The patient complains of a tingling or burning sensation in the part, which is increased by warmth. In extreme cases only does erythematous lupus affect more distant regions as the hands. When it has long invaded the scalp, the part becomes perfectly smooth, and white as marble, and sometimes considerable pain is felt in the bone beneath.

In considering the predisposing causes of lupus, the Causes. influence of sex is very decided. Of 170 cases collected in the years 1861, 1862, and 1863, 131 were females, and 39 males. These figures represent lupus in the aggregate only, a much greater difference being denoted in some of its varieties. Thus in lupus exedens the ratio is 5 to 1 between the two sexes, and higher yet in erythematous lupus and lupus with hypertrophy. On the other hand, in tubercular lupus the relative proportion approaches more nearly that of equality, and so is it in syphilitic lupus. Not less remarkable is the effect of age. In those cases wherein I have been enabled to trace the disease from its beginning, I find lupus exedens, as a rule,

to be developed primarily between the ages of 10 and 30 years, becoming more rare after that period, and seldom commencing before the seventh year. Again, it is quite the exception to meet with tubercular lupus originating after the age of 12 years. Syphilitic lupus takes a wide range in its period of development, beginning as early as the fourth or fifth month, and as late as the seventieth year and upwards. Strumous lupus and impetiginous lupus are generally evolved about the time of puberty.

Lupus is not, I believe, influenced by occupation, and rarely by locality, although most French writers agree that an excess of lupus occurs in the country compared to what exists in towns; Cazenave attributes this to the better quality of the food obtained in general by the inhabitants of the latter. Be this as it may, and the question is one difficult of solution, there is no doubt that lupus, if we except the erythematous variety, is seldom seen in the upper classes of society; and if not in its actual commencement, at any rate in its course, is greatly modified by diet; a relapse being frequently due to insufficient or non-nutritious food.

Among the more immediate causes of lupus, the receipt of some local injury is often assigned by the patient as the occasion of its first appearance, and hence its origin is frequently attributed to a blow or scratch. Sometimes it is reported to have succeeded a severe fright, or other strong mental emotion.

Treatment. In the local treatment of lupus exedens, when the part is covered as it usually is with a firmly adherent scab, the latter should be removed. In slight cases this is accomplished with a pair of ordinary dressing forceps; but in the more severe, the scabs or crusts should be previously moistened with rags dipped in almond or sweet oil, or with a poultice. To the surface

now exposed we apply for a few seconds a little cotton or carded wool, to soak up any pus or blood; and as soon as it is thus cleansed, the part should be touched with the solid nitrate of silver, cut if requisite, to a point; or else painted by means of a glass brush with the acid nitrate of mercury. The former method, advised by Hebra, is sufficient in recent cases, in which the ulcer is small, deep, and circumscribed; or when the granulations are so soft as to be detached together with the crusts; otherwise the latter is by far the more effectual remedy, while the pain attending it is greatly lessened by the after application of collodion. This soon dries on the part, which it defends from the air. Sometimes it is expedient to conceal the immediate effect produced by the acid, which is easily done by covering the surface with a piece of red blotting paper, and then painting the latter with collodion. No interference is to be allowed with the eschar occasioned by the caustic. After it has come away, the surface should be wetted two or three times a day with a weak nitric acid lotion; if it still looks unhealthy, a second application of the acid nitrate of mercury will be required, and may be repeated at intervals of two or three weeks. In other cases, in which, as recovery ensues, a red and granulating surface is left, we may substitute with advantage carbolic acid in the form of a lotion, and this should be applied over the thin scales which have replaced the former scabs. In lupus exedens, and particularly if it be conjoined with struma, cod liver oil will prove a valuable remedy. In what manner it is assisted by mercury is not so clear, but given in combination with this mineral, as half a grain of calomel with opium every alternate night, or three times a week, its efficiency is much increased.

In tubercular lupus, the tubercles should, as in the exedent variety, be touched at their summits with a similar caustic. It matters little which is employed, the acid nitrate of mercury, or nitric acid, or caustic potash ; but each should always be of the strongest kind, and never applied over too extensive a surface at one time. Tubercular lupus, as far as I have observed, admits of no other local treatment. The caustic requires to be repeated at intervals, until the tubercles are nearly reduced to the level of the skin ; for if allowed to extend deeper, little excavations or pits remain, which should be avoided. The patient should be cautioned that considerable inflammation is apt to follow the use of the caustic agent, whatever it may be, and that three or four days or more will often elapse, before it abates. After this stage, and to lessen the heat in the part, which is generally felt towards night, the application of oxide of zinc in weak solution, or the biborate of soda with glycerine, will be very serviceable. As regards constitutional treatment, cod liver oil and mercury may be given, as in the other forms.

Although by these means we shall succeed in reducing the tubercular mass to the lowest point of which it is capable ; and sometimes to such a degree as to render what was before an unsightly object now scarcely perceptible ; it should be remembered that the tubercles are very likely to form again, and this tendency must be accordingly corrected. In no kind of lupus is the tendency to recur more frequently shown than in the tubercular variety. In exedent lupus, after cicatrization is completed, the disease is much less disposed to return ; unless, as too often happens, the patient be exposed to the hardships attendant on extreme poverty. It is

seldom that in the poorer classes we have an opportunity of watching for a long term of years a case of lupus exedens; but among my notes is the record of a case in a woman, 49 years of age, a former patient of the Hospital, with severe lupus exedens, who, after six months' treatment, remained free from any relapse for sixteen years. Sometimes in lupus, particularly of the face, during as well as after recovery, the patient may suffer from erysipelas, which is so far favourable that it accelerates the healing process, or diminishes the chance of a recurrence of the complaint.

In strumous and in the papulo-pustular lupus, when the suppuration is free and the ulceration superficial, an arsenic and calomel caustic* will be most useful. Sometimes in children this is too stimulating, and calomel alone is the better application. These cases are seldom able to bear the more severe caustics; they are more likely to improve, as well as the syphilitic lupus, should the ulcerated surface be extensive, by the application of a weak nitric acid lotion and the trisnitrate of bismuth.

Lupus with hypertrophy.—The deuto-ioduret of mercury or the ioduret of sulphur, applied as an ointment, a scruple of either to an ounce of lard, is highly spoken of by Cazenave, and Biett, as serviceable in removing the tubercles of this complaint. More reliance is to be placed on the use of carbolic acid than the acid nitrate of mercury. To lessen any disposition in the diseased skin to crack, which it is often inclined to do, the patient will derive benefit from a lotion of the oxide of zinc and glycerine. Should there be little or no irritation but at

* It is made thus:—*acidi arseniosi*, gr. iij.; *hydrargyri bisulphureti*, gr. ij.; and *hydrargyri chloridi*, 3j. The powder is made into a paste with water, and applied with a camel-hair brush after the scab is removed.

the same time considerable desquamation of the surface, acetic or nitric acid in weak solution may be tried, and generally with success. Sometimes the actual hypertrophy is limited to a single spot, although traces of diseased structure are evident in the surrounding parts. The nose may thus attain an enormous development, while the rest of the face exhibits a mass of cicatrices. In an extreme case the nose, the seat of hypertrophied lupus, hung down like a pear and measured upwards of eight inches in circumference at its widest part. A patient for several years at the Skin Hospital, she was admitted into St. George's, under the care of Mr. Pollock, in June, 1864. The following woodcut shows the appearance of the part on her admission.



The mass of growth having been removed by amputation it was found, besides a large amount of serosity, to be

composed externally of masses of fat, while its central part was chiefly made up of ill-formed fibrous tissue. In the operation for its removal, a considerable portion of integument was retained to cover any exposed surface in the event of sloughing. This occurred subsequently; but notwithstanding the advanced age of the patient, who was over 70 years old, she made an excellent recovery. I have quoted this case to exemplify a line of treatment equally applicable to others of a like kind. To say nothing of the deformity, the mere weight of such a mass was a constant source of discomfort to the patient.

Plastic operations for the restoration of the nose from ^{Plastic operations.} lupus have been performed within the last few years by Mr. Hamilton of Dublin. Time however furnishes the only safe ground on which to base our conclusions as to their success. Tried by this test the final issue, even in selected instances, has not been such as to lead me to anticipate a hopeful result from operative interference. In all cases of this kind we have diseased tissue to deal with, and hence sloughing of the part is a likely contingency—an event which mars the best operation; for unless union takes place by the first intention, the condition of the patient is rendered worse than before. Again, there is often great difficulty in forming a proper septum, which, should the disease return, is almost sure to be destroyed. But the strongest objection is to be found in the fact that the new structure has finally dwindled or degenerated, after apparent success has at first been gained.

Sometimes we are called upon to repair the ravages produced by destruction of tissue in the lips, over which the saliva is always dribbling. In such a case our first endeavours should be directed to promote cicatrization,

an obstacle to which is often to be found in an offending tooth. A well marked case of this character was that of a man advanced in years and who had long been an out-patient under Mr. Startin. After the surface had healed, an attempt was made to supply the deficiency of the lower lip, which was almost wholly destroyed, by an artificial one formed of gutta percha and afterwards stained of the natural colour of the skin. This was attached by either end to an elastic band, which passed round the back of the head and served to keep it in position. By the aid of this simple contrivance the patient could partake of his food with comparative comfort. He was also able to resume his work as a gardener, without being subjected to those personal annoyances, which his former disfigurement frequently gave rise to.

Subsequent
growth of
cancer.

The conversion of the tissues of cicatrices into malignant or allied growths is shown in the readiness with which keloid or warty tumours are sometimes developed upon them; or in the supervention of a melanotic structure on a mole. To this general rule lupus offers no exception; and in illustration of it, I may mention the following case, although I do so rather to illustrate the principles of treatment than with reference to any special point in this complication:—T. E., aged 38 years, a healthy looking man, a patient in former years of Mr. Startin, was admitted, March 21st, 1866, into St. George's Hospital, under Mr. Pollock's care, with a prominent and irregular warty growth on the left cheek, and which had evidently arisen on a patch of exedent lupus. The tumour in question was of the size of a walnut, firm to the touch, and attached by a wide but short pedicle to the surface. It extended to the lower lid, which had become everted in consequence, and en-

croached on the outer canthus. On the side towards the nose were two or more hemispherical hard scirrhus-like nodules, easily felt on introducing the finger into the mouth, a procedure which also revealed ulceration of the mucous membrane corresponding to the site of the larger mass. Inferiorly it reached nearly to the upper lip. The whole of the right cheek, as far as the lower border of the inferior maxilla, presented a cicatrized surface of lupus, rendered rough from cuticular exfoliation. The patient had been affected with lupus for fifteen years, but the additional growth only commenced in the previous June. It had not caused pain or enlargement of the neighbouring glands, and there was no cachexia. The first part of the treatment consisted in excising the entire mass, and with it as much of the surrounding healthy integument as could be spared. The incision thus required laid bare a large portion of the superior maxilla, besides exposing the turbinated bones of the same side. As soon as this was performed and the bleeding ceased, the actual cautery, heated to whiteness, was everywhere freely applied to the wound, which was afterwards filled with lint on which chloride of zinc had been previously spread. The after treatment I need not detail. In two or three days the patient was sufficiently recovered to leave his bed for the convalescent ward, and his recovery was henceforth uninterrupted.*

Treatment of erythematous lupus.—The use of the more powerful caustics is inadmissible in this form of lupus. Should the complaint have made little progress

* This patient, as well as the one whose nose was removed by Mr. Pollock, now (September, 1866) attend the Skin Hospital. In neither of them has recurrence of the growth taken place, and the disfigurement in the latter case is much less than might have been expected.

Treatment
of erythe-
matous
lupus.

and present a good deal of redness the patient may apply twice a day with advantage a weak solution of nitric acid. The benefit of this treatment is most apparent when much cuticular desquamation overspreads the patch; or if smarting pain be felt in the evening, a lotion of borax, a drachm to eight ounces of water, and two drachms of dilute hydrocyanic acid may be substituted. If the disease be very limited and as yet in an early stage, I have frequently found that blistering the part in the first instance is useful before having recourse to either of the above lotions. In some cases, as when the scales are unusually thick and removed with great difficulty, the arsenical powder applied over them has succeeded in rendering the surface smooth but still red. Internally steel is recommended, to which in chronic cases arsenic may be added.

Cases are related of lupus ending in spontaneous recovery. This is contrary to all I have ever seen of the disease, which, left to itself, instead of inclining towards improvement is distinguished by an opposite tendency. It may happen that for a while this affection may remain stationary, as in the tubercular form, but it is contrary to experience that the tubercles should of their own accord disappear; indeed, I would rather say, that the degree of relief to be expected or attained in lupus is proportioned to the period at which the remedy is applied, and not to any inherent property it possesses to become exhausted or to wither away. The plan which is sometimes recommended, of treating the disease by constitutional measures alone, as cod liver oil, and at others by local means only, can scarcely apply to a complaint which differs so much in its symptoms, progress, and issue, and whose course itself is so liable to vary.

CHAPTER XIV.

ALOPECIA.

OF the various diseases relating to the skin there is scarcely one so sparingly alluded to as *alopecia*. It has attracted little attention even from Rayer, extensive and accurate as are his researches on most cutaneous complaints; while an equally meagre account is rendered by Gibert, Devergie, Hardy, and other contemporary and subsequent writers. This omission is the more remarkable if we may judge of the comparative frequency of the disease—a frequency which there is no reason to suppose is greater in this country than elsewhere.

Cazenave appears to be the only one who has given a good description of alopecia, which he has done under the name of vitiligo of the scalp. Willan's porriigo decalvans is rather the baldness following herpes tonsdens, or porriigo scutulata, and does not perfectly apply to this disease.

The alopecia which I am about to consider is that which is commonly called *alopecia circumscripta*, or *areata*.

Alopecia circumscripta may be defined to be a non-contagious malady, occurring in the form of white ivory patches, smooth, frequently shining, and ending abruptly in a circumference of sound unbroken hair; sudden in its advent, preceded mostly by no pain, uneasiness, nor discolouration of the affected part. Indeed there is, in

General
characters.

most cases, a want of sensation in the patches, so that redness is not readily excited by scratching or rubbing them, and the disease is therefore commonly unperceived until it exists with all its characteristics complete.

Ratio between the sexes.

I found among the cases recorded at the Skin Hospital during two years, in Mr. Startin's practice, a total of 60 cases of this complaint, commencing from the 1st of January, 1862, and ending on the 10th of December, 1863, viz., 31 in the latter and 29 in the former year. Of this number 37 occurred in the female and 23 in the male; and deducting 2 of the one sex and 3 of the other as instances of general alopecia, we have 35 and 20, or an excess much above a third, in the relative proportion between the two sexes.

Age of its occurrence.

On analysing the above numbers as to the period of life—reckoning an interval of five years to the age of 45 between each period—we have,

				Total	Females.	Males.	Age $3\frac{1}{2}$ years.
Below 5 years	.	.	.	1	1	0	
Between 5 years and 10 years				16	13	3	
" 10 "		15	"	9	6	3	
" 15 "		20	"	7	3	4	
" 20 "		25	"	6	4	2	
" 25 "		30	"	5	1	4	
" 30 "		35	"	4	3	1	
" 35 "		40	"	1	0	1	
" 40 "		45	"	4	2	2	
				53	33	20	

The ages of two of the female patients were not given in the register, and the number is therefore reduced to 33 instead of 35.

It is curious to observe in the above table the large number of cases between the ages of 5 and 10 years, being twice as great as that between any other interval,

and also the excess, that of 13 to 3 of the female over the male. Moreover, out of 53 cases, 25 occurred between 5 and 15 years of age; 19 of these were females. Again, we perceive in this sex, beyond the period of puberty, a decline in the proportion of cases of alopecia, until the time at which the catamenia are about finally to cease, when the number is slightly augmented. No such marked difference exists in the male. Between the ages of 25 and 30 years, however, the ratio in this sex is as 4 to 1 compared with the other; but then it should be remembered that it is at this interval, when permanent baldness frequently shows itself in men.

Circumscribed alopecia, as its name would infer, is Course. generally limited at its origin to a single spot, but exhibits great variety in its progress. Beginning usually without pain or any other premonitory symptoms it more frequently selects the occiput, but may commence equally in the temporal or frontal regions. The patch, small at first and mostly circular in shape, enlarges at its circumference, and after having attained the size of a florin or upwards, in certain instances, remains stationary, at least for a time. In other cases different patches are evolved in succession without coalescing with each other, until the entire scalp presents a series of bald circumscribed spots, varying in size from one to three or more inches in diameter; or the disease, unchecked, may so involve the whole scalp as to leave it entirely destitute of hair; or it may extend to the entire frame and render it smooth and white as an ivory ball.

I have said that the disease is commonly unattended by pain or any previous symptom. In a few cases, however, patients have stated that the part about to

become the seat of the complaint has been of a red colour, and painful as if bruised. This condition, also noticed by Hardy, is confined to the scalp and soon passes away, and the skin resumes its natural or even a whiter hue.

**Complica-
tions.**

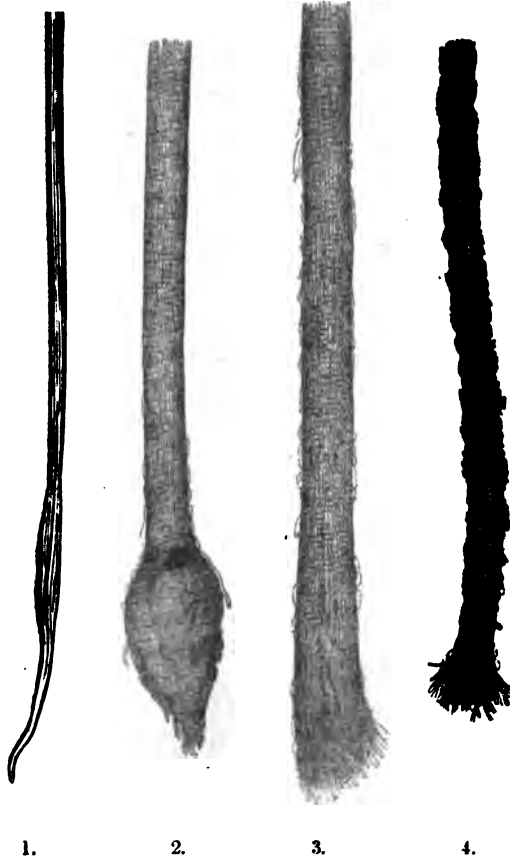
Although alopecia is apparently of spontaneous origin, it will be found, on inquiry in the young subject, to be often connected with the presence of ascarides; and at a later age in girls, with irregular or imperfect menstruation, or leucorrhœa; or some distant gastric or enteric irritation. Sometimes it succeeds to the eruptive diseases of childhood, especially scarlet fever. Another symptom, not unfrequently present, is severe headache of a periodic character generally, and confined to the forehead. In no instance that has come to my knowledge has the disease been hereditary or contagious.

**Microscopi-
cal appear-
ances.**

If we examine with the microscope the hair during the decline of the malady, a marked alteration will be seen to have taken place in the bulb. This becomes gradually attenuated, and reduced in the ultimate stage to a fine point, as the annexed diagram shows (see figs. 1, 2, 3). This state may be observed in the greater number of instances, and I believe it to be a very constant result. Sometimes the hair bulb will appear only stunted, and to have lost much of its globular shape; or, more rarely, a number of projections, like the ends of a brush, arise from its wasted or shrunk extremity (fig. 4). In a more advanced period of the complaint, the hair itself undergoes a change. It loses its smoothness of surface and the fibrillæ are readily broken.

If we turn our attention to the modifications that ensue in the process of recovery, we discover an opposite

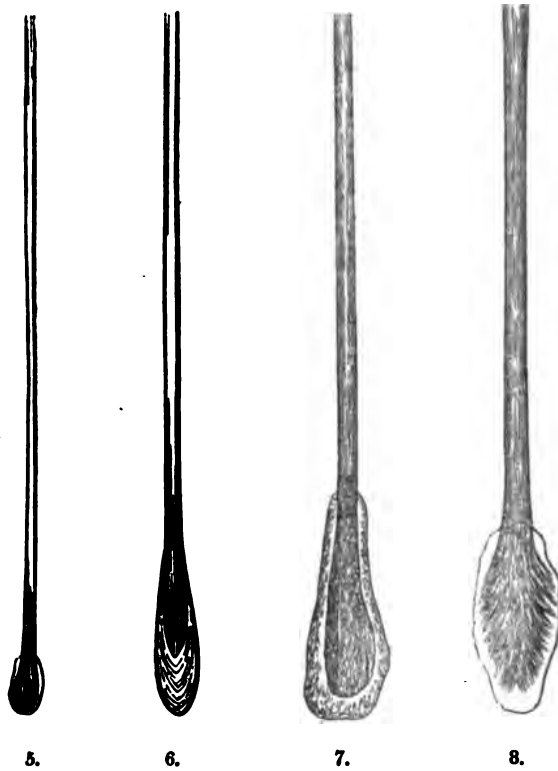
condition; and here too the bulb is mainly affected. Microscopical appearance. It assumes by degrees its normal character and shape,



Changes during its decline.

while the hair at this early stage is far below its natural size. (Figs. 5, 6, 7, 8.) The latter appears, when viewed through a high power of the microscope, as a simple diaphanous cylinder, without any central canal. For some length of time during its growth the new hair is readily distinguishable from the old, so much finer

and lighter is it. After the age of 25 years, it commonly first reappears of a white colour, which is gradually replaced by that of the natural tint. In the case of a young man eighteen years old, a patient at the Hospital, this whiteness was very apparent.



Changes during its recovery.

Not para-
sitical.

An opinion has been entertained that alopecia is a parasitical affection. Bazin supports this view, and has given to the disease the name of "tinea pelagra." Hardy, in like manner, describes it as characterized by a cryptogame, named, after its discoverer, the "micro-*sporion Audouini*"; and believes in its power of contagion.

On one occasion only as far as I am aware, has the parasite been detected in England, viz., by my colleague, Mr. Hutchinson.* This may possibly have arisen from an overlooked pityriasis or complication with herpes circinnatus, and the subject needs further investigation. Even in those cases of general alopecia in which the complaint is still spreading, our researches have been fruitless as far as they relate to the discovery of a fungus.

I am of opinion that alopecia should not be considered a parasitical disease. So rare is it in any family to find the complaint involving more than one individual—a result hardly to be expected in any affection of truly parasitic origin, such as herpes circinnatus or favus. Pityriasis versicolor may be quoted as an exception; but in this disease the parasite is generally recognised without difficulty.

There are probably few cutaneous complaints which *Prognosis.* tax to a greater degree the patience of its subject than alopecia. Many weeks, and sometimes months, will elapse ere any sign of recovery is indicated; nay more, the disease sometimes continues to gain ground. Despite these drawbacks the prognosis may generally be held to be favourable, modified in some measure by the patient's age, and still more by the duration of the complaint.

The treatment will be best considered when I come *Treatment.* to speak of that adopted in the cases hereafter to be considered. It should resolve itself into general and local. The former should on no account be neglected, as the constitutional causes which influence the disease will otherwise remain unaltered. In most cases steel, in conjunction with iodine, will prove a valuable remedy;

* *Transactions of the Pathological Society*, vol. xiii.

and in protracted cases, whether in early or in adult life, advantage will be derived from the exhibition of arsenic in small doses. The local treatment consists in the application of stimulants to the affected surface. If, for example, the denuded part be small, and confined to two or three patches, they should be painted about once in a fortnight or three weeks with a blistering fluid, and allowed to remain undisturbed until the irritation that results has subsided; while in the intervals between the application, the patient should be directed to apply some such ointment as the compound sulphur ointment of the Hospital Pharmacopœia, which consists of half a drachm of sublimed sulphur, ten grains each of the white precipitate of mercury and the sulphuret of mercury with sulphur; mixed with an ounce of cerate and four minims of German creosote. Sometimes, in lieu of this, the compound mercurial ointment is used, which contains an ounce of lard, five grains of the white and five of the red precipitate of mercury; and to this is frequently added four or five minims of croton oil. In many cases one of these local measures is alone sufficient. If not, the ointment should be made use of only at night, and in the day the patient sponge the surface with the tinctura lyttæ, either diluted simply with water in the proportion of half a drachm to an ounce; or the tinctura lyttæ may be added to a like quantity of the compound sulphur lotion; or to an ounce of water with the addition of a grain of the bichloride of mercury. When the patches are numerous, only a few should be painted at a time; and if the disease extends over a large surface, it will be enough, instead of blistering, to apply a mustard poultice occasionally.

Alopecia is seldom complicated with any other disease.

In only one case of 60 have I known this happen; and this occurred in a boy, who was also the subject of eczema.

T. W., aged $10\frac{1}{2}$ years, the third of seven children, was admitted an out-patient, under Mr. Startin's care, Feb. 5th, 1862. Eight months previously two small and bare patches were noticed—one on the forehead, the other on the left temporal region, which continued slowly to increase, until they reached the size of a shilling. He was the only child affected with this complaint. For several months prior to his admission he had suffered from headache. He was ordered to take half a teaspoonful twice a day of the *mist. hydrargyri co.*, containing for a dose $\frac{1}{10}$ th of a grain of the bichloride, and $\frac{1}{10}$ th of arsenious acid: to apply the *ung. sulphur co.* before going to bed; and to use daily the *lotio sulphur co.*, with the addition of the *tinctura lyttæ*. Notwithstanding this treatment, new patches became developed, until they reached eleven in number; the last appearing in October, 1862, and the largest, which was two and a half inches in diameter, occurring on the occiput. In the course of three months from his first attendance the hair began to grow on some of the smaller patches, commencing at their circumference, although the disease was spreading in other parts. No change was made in the treatment, which lasted until March, 1863, a period of thirteen months. The affected places were blistered on his first admission, and on four or five subsequent occasions. In the following June, hair was growing from all the patches; and in October, the scalp was well covered.

Another case is that of

A. D., aged 20 years, who became a patient at the hospital on the 4th of June, 1863. The alopecia was only of two months' duration, and eight or nine bald patches were visible on different parts of the head; the smallest was equal in size to that of a threepenny piece, and the largest to that of a penny. They were principally seen in the back and sides of the scalp. For the last two years she had been very liable to headache, and lately had lost much of her hair. A year ago she had an attack of measles. The patches were blistered in the usual manner, and she was told to apply at bed-time, with the friction of a tooth brush, the same

ointment as in the preceding case; a mixture of iodide of iron was likewise prescribed twice a day. In the course of a fortnight hair could be seen on some of the patches, and this was soon followed by its appearance on the rest. The remedies were continued for two months, at the end of which time hair was being everywhere developed. It was not until the ensuing December that I again saw this patient; her hair was then quite restored, except in one patch towards the occiput, where only a slight difference could be seen.

The treatment adopted in these two instances will serve to illustrate that which should be generally pursued in similar cases. With respect to *general alopecia*, which, I believe, differs from *A. areata* only in the greater extent of surface involved, the prognosis is less favourable than in the circumscribed variety. Several instances of this disease have occurred to me—one of only a year's duration, which was produced by no apparent cause and was almost complete.

The local treatment of general alopecia is essentially the same as in the other and more common form, save that, extending as the disease does over the greater part of the body, the ointment is to be further diluted with an equal amount of cerate. Blistering in the ordinary way is inadmissible, but benefit may be expected from the internal and continued use of arsenic and iron. In cases of longer duration, when several years have elapsed, no favourable opinion can be given as to the likelihood of recovery.

CHAPTER XV.

ACNE.

ONE symptom proper to acne is expressed by its *Definition*. derivation (*a*, non, and *κνᾶω*, *radere*), viz., freedom from itching; but this must not be taken in a sense too absolute, as in one of its varieties at least, no such complete immunity is obtained.

Acne is generally described as an eruption of pimples or “vari,” seated on the face, neck, or shoulders; very chronic in their course, and ending in resolution or imperfect suppuration. A more extended signification than this may, however, be given to it. Thus it may imply simply an increased secretion of the sebaceous follicles, or their inflammation; or we may have super-added to the ordinary eruption a varicose state of the capillaries of the skin, with or without hypertrophy of the tissues.

The varieties of acne are the following:—acne simplex *Varieties*. vel punctata, acne indurata, acne rosacea, acne sebacea, and acne syphilitica. Under the general term acne are comprised by some authors molluscum, acne varioloide, and sycosis or acne mentagra. Its coexistence also with chloasma, herpes, &c., has been noticed by Rayer, but this complication may be regarded as accidental.

Acne commences at and after puberty, and rarely shows itself as a primary affection beyond middle age. It is one of the most frequent complaints incidental to

the young adult, and equally common to either sex. Little difficulty is experienced in its recognition. The peculiarity of the eruption; the state of the skin itself, which from the activity of the sebaceous follicles, has an unctuous or greasy aspect; the numerous black points at the extremities of the follicles; and lastly its situation, render the diagnosis of acne in most instances an easy task.

Causes.

Various opinions have been expressed with regard to the causes of acne. The subjects of it, if young, are in good health otherwise. Unripe fruit, or great indulgence in beer or spirit will produce it, or insufficient diet; and in girls it is commonly connected with some irregularity of the menses. Venereal abuses may give rise to it, and there is little doubt that some of the worst instances of acne indurata are occasioned by masturbation. Acne rosacea is sometimes hereditary, and in those who are thus by nature predisposed, the disease is readily induced by any excess at the table, or even exposure to cold and wind; or it may be derived from artificial heat, as in cooks, smiths, and that numerous class who are constantly exposed to vicissitudes of temperature. The origin of the word "rosacea" and such terms as "brandy face," "grog blossom," which are commonly applied to it, might seem to imply that it was almost limited to those accustomed to deep potations of wine or other fermented drinks, but the complaint has no such exclusive restrictions; the most temperate even are not exempt. Patients who suffer from chronic disease of the liver or from hæmorrhoids, are more than others susceptible. Acne rosacea is also occasionally met with in women, at a period of life when the catamenia are about finally to cease, and Gibert notes its frequency more particularly

at this age from the use of cosmetics. Sometimes it appears, and that in an obstinate form, during early menstruation.

Much will depend upon the length of time that the disease has existed, and in no case should the patient be led to expect a rapid recovery. Acne simplex will sometimes be very intractable; but in this, as in acne rosacea, provided there be no hereditary tendency or hypertrophy in the latter, a favourable issue may be anticipated. In acne indurata of a severe kind, a long period will sometimes elapse before any decided benefit is produced.

In considering the different agents for the treatment of acne, we must be guided by its variety, cause, and duration; and where there is sufficient reason to attribute it to any continued error in diet, or to amenorrhœa, or ascarides, or other influences, the general state of the health should be regulated accordingly. The diet should be strict, and beer, or acid fruits, or salads, especially avoided. If the long-accustomed stimulus of alcohol has been suddenly withdrawn, it will be in general advisable to return to it in moderate quantity. The internal use of steel, and the addition of a purgative, will commonly fulfil the requirements demanded by general treatment. Arsenic is seldom required in acne indurata or punctata, and not at any time in the other varieties.

Local measures play no unimportant part in the treatment of acne, but great care is necessary that they be not too stimulating. A lotion containing from two to four grains of the bichloride of mercury, half an ounce of rectified spirit, and seven ounces of rose water will prove useful. At the Skin Hospital, the practice is to administer a weak solution of the bichloride and bisul-

phuret of mercury; this will be found advantageous in acne, even in the chronic stage of the indurate variety. Sulphur is also very serviceable in acne, and may be used in several ways. As a lotion it should be largely diluted. Sometimes, in place of sulphur, a lotion of bismuth answers extremely well in combination with mercury—a drachm of the trisnitrate of bismuth, five grains of the bichloride, a drachm of spirit of camphor, and eight ounces of water. Among ointments, I may mention those composed of sulphur or of mercury, which are to be lightly smeared over the part once in the course of twenty-four hours, and that at night before the patient retires to bed.

Before applying any of the above preparations, the patient should make use of a rough towel dipped in water as hot as can be borne, and thus by opening the pores of the skin cleanse the surface of any sebaceous matter that may have collected. In acne punctata he would also do well to rid the sebaceous follicles of their overcharged contents by making pressure at their sides with the finger nail, when a little cylindrical yellow mass will escape. Any small pimples already on the verge of suppuration should be opened with the point of a lancet, or if of larger size, touched with the acid nitrate of mercury. To remove or diminish the increased capillary secretions, when this exists in a marked degree, various means have been devised. Among the best is strong nitric acid, painted over the part with a fine glass brush, and then immediately absorbed by blotting paper. In the course of a few days the capillary vessels will be seen to be considerably diminished in number as well as in size. A repetition of the same acid may be employed to any spot that has not already showed signs

of disappearing. When acne invades the chin, the latter is apt to become sore and painful. Neligan suggests in lieu of soap for those who shave, a saturated solution of the bicarbonate of soda, and an equal quantity of olive oil. In the treatment of acne sebacea, Biett advocates the vapour douche, to be used for a quarter of an hour on each occasion. This has the effect of softening the crusts and causing them to disappear. Hardy, in like cases, recommends the use of an ointment of the peroxide of iron.

Such are our chief remedies for the relief of acne, which in most respects are similar to those alluded to by Cazenave and Gibert. Biett, an acknowledged authority in all that concerns the skin, pronounces in favour of the ioduret of mercury in acne indurata. It is however seldom resorted to in this country.

Varieties of acne.—*Acne simplex* is distinguished by ^{Acne simplex.} an eruption of pimples, varying in size from a pin's head to a pea, and scattered over the upper part of the body. In some cases it is limited to the face—the forehead, nose, and cheeks being mainly attacked; or it may at the same time appear on the sternum, or the shoulders, or between the scapulæ; and in the latter situation, by no means an infrequent one, its existence is often not detected by the patient. The pimples are hard, shining, and red. They arise in successive groups, and each pursues for the most part an independent course. Often they may be felt as little knots or tubercles embedded in the skin, while the larger and more prominent are observed in various stages of development. Among some of the earlier pimples after a few days, little yellow spots may be frequently seen at their summits, indicating matter beneath; but if this be let out, only a drop or two of pus

escapes, and the size of the pimple is scarcely diminished. It retains for a considerable time its hard circumference or base, and changing in some cases to a darker colour, as in *acne indurata*, slowly disappears. Many of the pimples do not suppurate, and in others the pustular stage is delayed for several weeks. The intermediate skin is scarcely if at all affected.

*Acne
punctata.*

Interspersed in the eruptions just described, and indeed in almost all the varieties of acne may be generally noticed numerous black points or specks. These are the openings of the sebaceous follicles, loaded with secretion, and rendered black from exposure to the air. The dark points in some cases are hardly raised above the level of the skin. It sometimes happens, if the follicles inflame, that two or more will unite, and thus form a good-sized pustule; and in a few instances I have seen a number of hemispherical pimples close to but distinct from one another, and each surmounted by a black speck.

*Acne
indurata.*

In *acne indurata* all the symptoms are aggravated, and the complaint is characterised by an indurated state of the pimples and their confluence in lines or furrows. The disease shows itself at a later age than the preceding, generally between the twentieth and thirtieth years; is remarkably slow in its progress, and oftentimes produces great personal disfigurement. It is frequently combined with the other kinds of acne, as *acne simplex* and *acne punctata*. When suppuration has taken place in the pimples a small cicatrix is sometimes left, surrounded by a hard livid or purple base.

*Acne
rosacea.*

Acne rosacea, the *couperose* of French writers, is more allied to erythema, and differs in many respects from the former varieties. When witnessed in early life, not that it is usually a disease of this period, it is sometimes

severe, and involves the greater part of the face, to which it is always confined. In most cases *acne rosacea* is a complaint of middle life, and in women is generally worse at the catamenial period. The redness, from which it derives its name, is at first perceived only after meals, and limited in the early stage to a single small patch generally on the nose; this colour becomes by degrees permanent. It is less observable in the morning, but assumes a brighter tint towards evening, and is increased by hot drinks, as tea or spirituous liquors, or by excitement, or by the warmth of a heated room. A burning or tingling sensation is experienced when the patient approaches the fire. Pimples, around the base of which the colour is always intensified, spring up, indolent in their nature and tedious in attaining maturity. In nearly all cases, immediately beneath the skin, and most evident in the vicinity of the pimples, are numerous dilated and tortuous capillaries. The disease, peculiarly liable as it is to relapse, at length becomes confirmed. The skin no longer glides beneath the finger, but with the subcutaneous tissue feels hard and thickened; and finally that hypertrophied condition is beheld, which betrays the complaint in its ultimate stage.

Acne sebacea, although narrated in detail by most ^{*Acne sebacea.*} foreign authors, is sparingly alluded to by our own. I shall principally follow Hardy in his account of this affection, which, rare in this country, first attracted the notice of Biett. It is described as occurring in one of three forms—*acne sébacée fluente*, *concrète*, and *cornée*. In the first of these, the sebaceous matter is in a fluid state, and constitutes an unctuous covering on the surface of the skin. The secretion is unattended by pain or itching, and is often abundant. It occupies the same

situation as the other varieties of acne, and is generally intermingled with them. In the second, the fluid concretes into a scab, varying in extent, sometimes occupying a large space, and in colour ranging from a light to the darkest hue. In consistence the scab is soft and easily moulded, and in recent cases removed with ease. Although similar in locality to the preceding, it sometimes appears on the scalp, and Rayer relates a case of acne sebacea of the scrotum. The last, or the acne sébacée cornée, is identical with the ordinary sebaceous tumours. (Hardy, *Maladies de la Peau*, folio 100; 1858.)

Acne
syphilitica.

Acne syphilitica has no fixed seat of selection. It is more general on the forehead, but is sometimes found on the shoulders and chest. The pimples are disposed in groups or more widely scattered, and are seldom developed simultaneously. When they proceed to suppuration small brown scabs are formed, and a minute ulcer remains at the summit. After this has healed a circular and depressed cicatrix is left, around which is seen a dark red or copper-coloured areola. Another symptom denoting syphilis is the absence of that oily secretion which is so general an accompaniment of acne.

CHAPTER XVI.

SYCOSIS.

THE origin of the word *sycosis* is from the Greek *συκον*, a fig, the pulp of which it was thought to resemble. I need scarcely say that no such similarity as that implied from its derivation is in any way offered by the disease; but it is, nevertheless, sometimes expedient to retain a name which has come down to us from ages, although possessing no other claim than that of antiquity for its support. Sycosis was known as far back as the time of the younger Pliny, who mentions the complaint as an epidemic in different parts of the Empire, and very severe in the higher ranks of the Roman nobility, among whom it produced the most extensive ulcerations and disfigurement. The treatment, if we may credit the same authority, that the patients received, was of a kind little likely to improve their personal appearance or arrest the rapid progress of this malady.

Sycosis is classed by English writers with the pustular diseases of the skin. It is nearly related to acne, and should be regarded as a disease of the hair follicle. It may terminate in resolution or suppuration; or, as a final result, it may occasion an obliteration of the follicle, and leave permanent baldness of the affected part. In France sycosis is deemed a parasitical affection, dependent on a parasite which is described as similar to that of *tinea tonsens*. In support of this theory it is alleged,

that cases occur in which sycosis and *tinea tonsdens* have been found in the same family, or even in the same person. But the inference thus sought to be deduced is hardly warranted, from the rarity of the coexistence of these complaints; and is, moreover, opposed by the difference of locality which each variety of fungus presents. No instance has come under my notice which could at all establish the identity of these diseases; and even its contagious character would appear to rest on a solitary example recorded by Foville, which is frequently quoted. My own observation of the disease, in so far as it relates to microscopical inquiry, has led me to the belief that, in this country at least, sycosis is seldom attended by a parasite; and I quite share the opinion of Hebra, that the presence of a fungus should be considered accidental, and not an essential condition of the complaint.

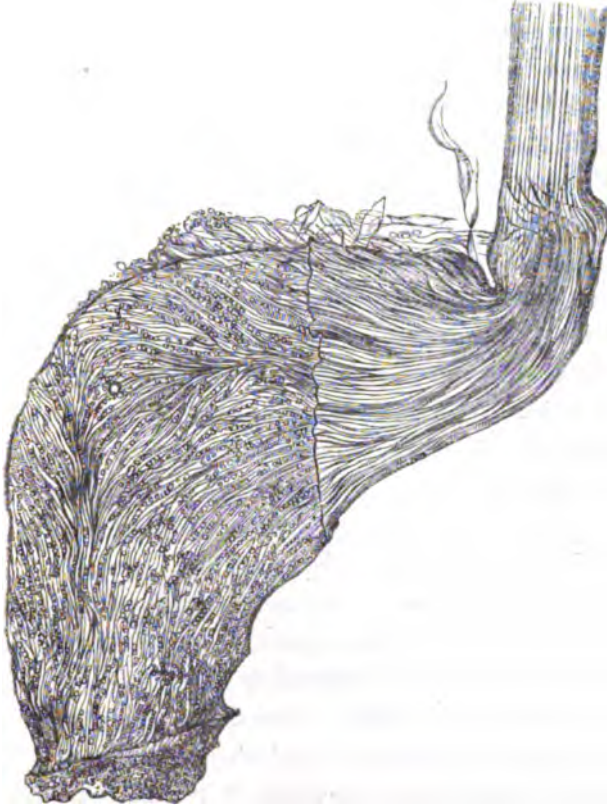
Microscopical appearance of the fungus.

The accompanying drawing of the cryptogame represents one of the few instances in which I have been able to discover it. The spores, which abound in myriads, are small, and in shape circular. The parasite is remarkable in being limited to the sheath of the hair, which, as well as the root, it surrounds; but it never appears above the skin. Gruby first discovered it, and in his memoir he mentions the filaments connecting the sporules as extremely thin, and granulated internally; the filaments are also seen to divide at various angles. The fungus is chiefly situated between the root of the hair and its follicular wall.

Situation.

The hairy portion of the face is the usual locality of sycosis. Not commencing before puberty, it is peculiar to the male sex, in whom it occupies part or the whole of the upper lip; or the exposed Schneiderian membrane

of the nasal septum; or the chin, whence the name of *mentagra*, by which it is best known abroad. Sometimes the sides of the face which are covered by the whiskers are the seat of this eruption. Rarely does it



affect the eyebrows; and in one case only have I noticed the complaint to occur on the upper and back part of the neck, adjoining the occiput, and therefore clothed with short hair: in this instance it was found to coexist with sycosis of the lips and chin. A variety is referred to by Bateman, under the name of "*sycosis capillati*," and by Alibert as "*pian ruboide*": of these kinds no example

has passed under my observation, nor yet of sycosis in the female, as narrated by some authors.

Symptoms. A feeling of heat and tension, rather than pain, is experienced in the part before the eruption appears. The surface is at first red, and a few pimples or tubercles are commonly developed upon it, which increase the former irritation. Some of the pimples are penetrated in their centre by a hair, and at this spot a speck of pus is often perceived, which extends, until the greater part of the pimple becomes converted into a pustule. The swellings are usually indolent, and slow to suppurate; and when the latter stage is reached, the scabs are mostly dark yellow, and collect together the hair at the roots. The crusts are likewise very adherent, and difficult of separation, particularly those that are traversed by hairs. After their removal, tubercles of good size frequently remain, showing the apertures from whence the hair bulbs have been extracted, and which are in consequence generally smeared with blood. Towards the border of the patch, the crusts more resemble those of impetigo, and are smaller and less firmly attached.

Sycosis fully merits a place in the list of relapsing complaints; but great uncertainty prevails as to locality and time in its return. Sometimes the patient will affirm, that he has not been wholly free from it for several years; more frequently it recurs after a few months, or in the autumn, and among the early symptoms we may detect a white scurf enveloping the roots of the hair.

Great diversity of character is exhibited by sycosis, according as the disease is acute or not. Sometimes the tubercular condition is that which is most evident: the surface appears to consist of a large cluster of tubercles,

which, although unequal in size, are seldom any of them larger than a split pea. They cause much irritation, and often give rise to considerable discharge. In other cases the tubercular element is less manifest, or absent, even from the commencement. Many instances of the latter are met with in which the disease is confined to a space not exceeding a sixpence in diameter, especially on the upper lip near the middle line. The part affected is of a reddish colour, slightly raised or swollen, and partially covered with small thin and yellowish crusts. A few pustules may be occasionally observed, each containing one or more hairs. An oozing of moisture takes place rather than an actual discharge, which is mostly perceived after a night's rest. Small as is the extent of surface involved, the disease sometimes becomes a source of great mental annoyance to the patient. It shows little indication to spread, and will continue stationary for many months, or even years.

In chronic sycosis it is not uncommon for collections of pus to form, which produce a partial but permanent loss of hair. In these cases, smooth and bare patches are seen, varying in size from a threepenny piece to the palm of the hand. Sometimes a single spot of this kind occurs, at others there are several, and they may be situated on either side of the face, or below the chin. Whatever their extent, the intervals between them are occupied by apparently sound and healthy hair. In less advanced instances, a few straggling hairs are frequently found on the patch. Another result of confirmed sycosis, and one equally characteristic of the complaint, is an induration or thickening of the affected part. This is at once manifest to the touch; and in colour it partakes of a dark red or violet.

Sycosis may run a rapid course, as in the following example, which I had an opportunity of seeing. On the 3rd of Feb., 1862, there came to the Skin Hospital, under Mr. Startin, a man, 20 years of age, employed in the London Docks, with sycosis of the lips, chin, and sides of the face, which were one mass of crusts and ulcers. When some of the scabs were detached, unhealthy granulations were exposed, discharging a thick and offensive secretion. He was in great pain, and could only with difficulty open his mouth. This was the first outbreak of the disease, which had only existed three weeks.

Sycosis may be syphilitic. It is sometimes difficult to diagnose cases of this kind, which are far from being common. Not only do they present a number of irregular tubercles on a dark or dull red ground, with an outline more or less serpiginous, but we may often note a suspicious sore, depressed in its centre, near the margin of the lip, or on its mucous surface. They are, moreover, seldom painful, unless irritated by exposure to a cold wind.

Diagnosis. The diseases of the skin which are most likely to be mistaken for sycosis are the following:—1st. *Acne rosacea*. This, although it may appear on the chin, is seldom confined to it, and more generally occupies the cheeks and nose. The same redness is manifested in either eruption, but the pimples of *acne rosacea* are less disposed to suppurate or to be succeeded by thick crusts; and, again, while the one complaint is unknown in women, the other is not so frequently observed in men. 2nd. *Impetigo*, to which it bears a close resemblance in many cases, and with which it is often confounded. Both select the same locality, but sycosis is rather a

tubercular complaint; its crusts are more raised and of a darker colour, and that hypertrophy of the cellular tissue beneath, which commonly attends sycosis in its later stage, is seldom seen in impetigo. 3rd. Syphilitic rupia, when it attacks the exposed mucous surface of the nose, or occurs on the chin or lips, may be mistaken for syphilitic tubercles. In the latter situation the diagnosis is sometimes obscured by these parts being covered with hair. It may be of service to remember that the scabs of rupia mostly conceal unhealthy ulcers, and the secretion is dark and offensive. In other cases we find a group of closely-set, smooth, shining tubercles, of a pale red colour, which are truly syphilitic.

We must not judge from the apparent severity of the ^{Treatment.} attack of its probable duration under treatment, for while some cases are confessedly obstinate, a large proportion are benefited, and that speedily, by appropriate means; indeed, the narrower the circle of the disease, the more difficult is it oftentimes to overcome. In all instances which implicate the lips and chin, the hair of these regions should be clipped as closely as possible with short scissors, and the razor discarded until complete recovery. Cleanliness is very important, and simple warm water or thin gruel is required to soften and so assist in clearing away the crusts and their secretion. The local treatment should be modified by the acuteness and extent of the eruption. Thus, if the latter be painful, widely spread, and, as in the case above quoted of the dock labourer, accompanied by offensive ulcerations, a large bran or linseed-meal poultice, containing a small quantity of sulphur should be constantly applied. The violence of the attack will thus be greatly lessened in a few days; and when this point is gained, it will be enough to sub-

stitute for the poultice an ointment of sulphur, consisting of half a scruple each of the precipitate and iodide to an ounce of cerate. This will prove of advantage in a large number of cases, and when its influence is beneficial, an improvement is soon shown. The internal treatment should be regulated by the state of the general health. In some cases, as when the skin is unusually tender, a mercurial ointment is to be preferred to one of sulphur. Any hairs that are seen to emerge from the pimples or pustules should be extracted from time to time, or the patient may be instructed to do this himself. Great strictness in diet is to be enjoined; for while nourishing food is necessary on the one hand, a relapse is often occasioned on the other by alcoholic stimulants, which are rarely required. In hospital practice the sufferers from sycosis mostly belong to one of three classes: first, waiters, who from their calling are liable to sudden alternations of heat and cold; secondly, bricklayers, and those in whom, besides the irritation of lime acting on the surface of the skin, habits of intemperance are confirmed; and thirdly, those who are exempt from these influences, and abstemious to a degree.

Another mode of treating sycosis is by epilation. This is most useful when the disease has not spread far, or is limited to a patch of small size. In adopting it we should be careful to remove not only each single hair from the affected part, but also include any that are apparently diseased within its margin. The attendant pain is less than might be expected, and this is explained by the fact that in the pustular stage of the disease the hairs are easily extracted; their removal is scarcely felt by the patient. After this procedure is completed, an interval of two or three days should elapse to allow any

irritation of the skin to subside, or the part may be anointed with glycerine, or covered with a soft poultice, to dislodge any crusts. The next step is to apply, morning and evening, an ointment of mercury, or a lotion of the same mineral, in which case I prefer the bichloride, in the proportion of two grains to an ounce, and a drachm of eau de cologne added to it. Sycosis is frequently relieved in this way in the course of three or four weeks, nor does lasting baldness take place if the hairs are thus treated instead of being allowed to fall out.

It has been said that while under treatment the use of the razor should be given up, as being a source of irritation to the skin. If during recovery this be impracticable, the patient should be advised to employ, instead of the ordinary soap to shave with, that which is manufactured by the name of juniper tar soap; and if this be not procurable, honey soap; either of these kinds is less hurtful than that generally used.

In syphilitic cases we must trust to the internal administration of mercury and the iodide of potassium. The improvement is generally of a slower kind than in the other varieties. Similar local treatment is required, and the same precautionary or accessory measures are needed, whether to promote relief or prevent a relapse.

CHAPTER XVII.

FAVUS.

WHEN we consider the character of *favus*, how entirely it stands alone among other affections of the skin in all that concerns its symptoms, progress, and pathology, our surprise will cease at the interest which Schonlien awakened by demonstrating its cryptogamic structure; or the elaborate investigations of which it was soon to become the object. There is probably no disease of the skin that has undergone the test of microscopical inquiry so much as favus, and I have only to recount the names of Gruby, Robin, Lebert, and Remak, among a host of continental writers, who have devoted to it a large share of attention. In our own country, at a time when Gruby was still pursuing his researches, Hughes Bennett, of Edinburgh, followed closely in the same path; and in a paper which he communicated to the Royal Society of Edinburgh, was the first to give us a clear and accurate account of its peculiar method of development.

General
characters.

As soon as it is capable of being recognised by the eye, favus is seen to consist of a light-yellow or brimstone-coloured crust, not exceeding in size a millet seed, and oval or circular at its periphery. Sometimes it is pierced by one or more hairs, which are generally in their direction oblique. Partially embedded in the skin, its upper surface quickly rises to a level with the epidermis, with which at its circumference it is closely

connected; it is at first flat, and soon becomes slightly concave. Increasing in diameter, its concavity deepens, and acquires a lighter colour in the centre, and is further distinguished by a series of concentric rings. Should the crust be detached at this stage, its under surface is found smooth, convex, and covered with moistened cuticle; a drop or more of blood may follow its removal, but otherwise, and if separated with care, the cutis is only somewhat reddened and depressed, and in a few hours regains its natural elevation. In some cases, after the crust has been thus detached, a small button-like projection will be observed on the surface. A new crust soon takes the place of the old; but should the latter be undisturbed, in the course of a few days it will have arrived at maturity, and then further changes ensue. It loses its characteristic cupped appearance, and becomes convex; the circles grouped around a common centre fade and disappear; and then a rough and raised mass results, dry, friable, and fissured. By degrees, its attachment to the skin is less firm, and its base less round than before. At length the crust drops off, leaving only a dark red stain. These successive changes are best studied in those crusts that have remained distinct. Where several have coalesced, they give rise to irregular formations.

When favus attacks the hair the condition of the latter becomes completely changed. It appears dead and dull, and its elasticity is destroyed. If we examine a marked specimen, as in Plate VI., fig. 1, (*d*), the external surface may be observed to be dotted with circular spores, which, although mostly separate, preserve a linear arrangement. They tend to split the hair longitudinally in several places, and at length totally

Appear-
ances of the
hair.

disintegrate it. In a less advanced stage, as in (c), these characters are less apparent, and only a few scattered spores are seen on the exterior. Not only is the shaft thus diseased in its entire length, but the bulb suffers in the same or even a greater degree. The latter spreads, and between its projecting fibrillæ are deposited numerous spores. If the disease be very chronic, and the hairs are allowed to fall out, the follicle is destroyed, and permanent alopecia a result. In such patches, which have become bald, the skin is thickened, hard, and dry.

Appear-
ances of the
crust.

In fig. (a) is represented a portion of a favus crust under the microscope. It abounds in mycelium, which consists of wavy tubes, containing several small spores in their interior; between these is a quantity of exudative matter and epithelial scales. In (b) the spores alone are observed, some separate, others joined end to end, and others again, may be seen to arise from the extremities of the tubes.

A favus crust, in its early stage, is light and highly porous in its interior, breaks like a piece of pumice-stone, and crumbles to a yellow powder. Externally it is more compact, so as to constitute at this part a thin and tough layer or *stroma*. It is in its central part that the mycelium and spores abound. The stroma, according to Bennett, is the source from whence are derived the spore tubes. The latter emanating from every point of its interior, or rather from the granular mass which lines it, divide dichotomously as they approach the centre, where they break up into a number of spores. The tubes are cylindrical, but assume every variety of shape. The spores, although they differ in size, are generally spherical.

Numerous experiments have been made to propagate the disease by inoculation; they have in general failed, but the skin has become red or slightly inflamed, or only pustular. Remak is stated to have inoculated successfully, after removing the cuticle and attaching the favus crust by means of strips of plaster for thirty-six or more hours. There can be no question that favus is contagious, but it is not so clear under what circumstances the contagion is received. Early life is one of the elements favourable to its development, and neglect of ordinary cleanliness is commonly assigned to be another, but this is not invariable. It is during its growth, when the crusts are first formed, that favus appears most contagious, as at this period the sporules are abundant. After a time the crust loses its distinctive character in this respect, and the hair becomes destitute of spores. At a still later stage the scalp, supposing the hair to be cut close and recovery is proceeding, bears no small resemblance to chronic eczema, as far as external appearances are concerned.

Favus is not confined to the head, but may occupy the extremities or trunk. Although it may attack the nails, it seldom includes the hands or feet.

Favus has no necessary connexion with struma, although it cannot be denied that it is frequently found in phthisical subjects. Perhaps there may be something in the cutaneous secretion in these cases, that favors the growth of the sporules. Again, patients who have already suffered from this disease are, more than others, liable to be attacked. Whether this be due to the complaint not being wholly cured, the germ of it still remaining, I do not decide; but the fact remains, that in a severe case after apparent recovery, the patient is

very subject to experience a relapse. The loss of hair will depend upon the state of the hair follicles: when the latter are obliterated, which takes place after successive attacks, no regeneration of hair ensues; the patches remain smooth and the skin inelastic, but in the less severe forms of this disease no permanent baldness follows.

There are good grounds for the belief that favus is becoming every year more rare. At the Skin Hospital it is now seldom seen. For some excellent examples of it in this country I am indebted to the courtesy of Dr. Hillier, under whose care at the Hospital for Sick Children in London, several cases have been admitted. In Paris at St. Louis, the disease is common enough, both among the in- and out-patients. It is, however, only in the lowest classes, among the children of the very poor and wretched, that it occurs at all.

The actual seat of favus is still unsettled. According to some observers the disease commences in the hair follicle, and various are the changes which it is supposed to undergo before it reaches the surface in the form of a cup-shaped crust. By others, among whom may be mentioned Gruby and Bennett, the mycelium is received between the layers of the epidermis, a furfuraceous desquamation of the cuticle precedes the crusts, and it is from the walls of the latter that the sporules are formed. What lends weight to this theory, and to me renders its acceptance the more trustworthy, is the fact that the attached surface of the crust is coated with a layer of epidermic scales, which separate the granular mass from the cutis, and consequently from the hair follicle. The latter I believe to be affected secondarily; and when the hair is finally destroyed, the change is caused by

the pressure acting on the follicle, rather than by any primary defect in the condition of the follicle itself. Some authors, as Rayer, speak of favus as if the disease were originally pustular. This is an error. Pustules may coexist with favus, but they are quite independent of it.

Favus is often stated to emit an offensive odour, which has been compared to the urine of cats. This may happen in a very advanced stage, when the patient has suffered the complaint to run its course, to the complete exclusion of all cleanliness, but it is not a constant result; and I have seen favus involving the greater part of the trunk, face, and extremities, unattended by any disagreeable smell. When it occurs unchecked, the disease is generally complicated with vermin, which find refuge in the fissures of the crusts; and is further aggravated by pain, which the patient seeks to alleviate by violently scratching the part.

The common remedy in France is epilation, as practised Treatment. at St. Louis. This mode of treatment is generally entrusted to an experienced attendant, who is furnished with a pair of forceps, having broad and closely fitting edges. Simple as the operation may appear to be, it requires some degree of skill to perform it properly. The hairs should be extracted in the direction in which they grow, and as this complaint renders them brittle, they will be very apt to break off at their roots. The extent to which the treatment should be carried at a single sitting will depend partly on the feeling of the patient, and still more on the dexterity of the operator, but as a rule the procedure is more painful at first than afterwards. The time that it may altogether occupy before the diseased hairs are thus eradicated will be commensurate with the

extent to which the complaint has spread. The new hairs which form are distinguishable from the old by their being less brittle, and not so wanting in lustre, although still small. It is scarcely necessary to add, that before epilation can be undertaken, the surface of the scalp must be thoroughly cleansed, and the hair itself cut quite short. If after some days no signs of crusts appear, nor any remnant of the cryptogame be detected in the hair, the patient may be pronounced convalescent, but it will be as well not to lose sight of him, for the spores will sometimes lie dormant for a while. A return of the disease is shown by a slight redness, and a furfuraceous condition of the scalp. In the intervals between the extraction of the hairs, the surface should be anointed with a liniment composed of sulphur or mercury. Other plans of treatment are also in vogue abroad. Thus, after the head has been cleared of all crusts, it is washed with soap and water. This step is repeated as often as is necessary, until the scalp is thoroughly clean. The surface is then covered with an ointment, composed of one or two drachms of the bicarbonate of potash to an ounce of lard, which is applied every alternate evening for three or four weeks, according to the severity of the case. In England epilation is seldom had recourse to. After the usual preparatory process in the way of cleansing, tar or the ung. picis liquidæ, or a preparation of sulphur is used. In most instances this seems to answer every purpose. Neligan, who has had considerable experience of this disease in Ireland, prefers the iodide of lead ointment, in the proportion of half a drachm to an ounce of cerate; and states that it has succeeded so well in his hands that he has had no occasion to try any other remedy.

CHAPTER XVIII.

SCABIES AND PEDICULI.

SCABIES, or the *itch*, to use a more common expression, *Scabies*, is a complaint variously classed by different writers, according to the preponderating character of some particular symptom, whether this consist of vesicles, papules, or pustules. Whatever sign it may present, and there is scarcely any disease of the skin which scabies may not simulate, it owes its origin and significance to an insect—the ‘*acarus*’ or ‘*sarcoptes hominis*.’

Although known from a very remote period, as early as the time of Avenzoar in the twelfth century, it is only within the present age that the *acarus* has formed the subject of much accurate research. In this country Mr. Erasmus Wilson, and abroad the labours of Gras, Hebra, Gudden, and Bourguignon have left little that is wanting in completeness in whatever relates to its organization, development, and habits. For the anatomy of the creature I have to record the results of my own microscopical investigations; but, less fortunate than Bourguignon, I have not hitherto succeeded in tracing the various changes occurring in the ova, from the first appearance of the ovum to the maturity of the contained insect. For this part of my subject I am indebted to the valuable monograph of this latter writer.

The *acarus* has been compared, and not inaptly, to a Anatomical characters. tortoise. It is, however, more globular than oval, and

appears almost transparent under a high power of the microscope. It is provided with eight legs, two pairs of which are in front and a single pair at either side, which arise from the under surface of the body. Exactly in the middle line at one extremity is seen a distinct head, and at the opposite is the anal aperture.

The roundness in form varies with the state of repletion or otherwise of the animal. When no food has been taken for some time, and it is both hungry and lean, the entire body is thrown into a number of transverse folds, which in a great measure disappear after engorgement; these overlap one another like so many tiles, and are most evident at the sides of the creature. Disposed irregularly throughout the interior, we may generally perceive a number of dark, round, and distinct granules, which are masses of food in a partial stage of digestion; but I have never been able to confirm Bourguignon's statement, that prior to their ejection from the anus they are contained in a short canal, which he denominates the rectum.

The dorsal aspect is convex, rising like an arch in the centre, and sloping towards the sides, which terminate in a free edge, the line of union of the upper and lower surfaces. The former offers the following appendages, which may be divided into three sets:—firstly, a number of small triangular elevations, giving to the eye an appearance of so many thorns, attached by their base, and ending each in a sharp-pointed apex. The majority of these are oblique in their direction and disposed in concentric lines; in number they range from fifty to eighty. Secondly, conical projections, less numerous than the preceding, but more scattered in their distribution, and chiefly developed towards the lower third of the same

aspect; they appear to originate from a kind of papilla, but whether their interior is hollow or not, it is impossible to say. Thirdly,* of much smaller size, and situated between the first-named processes, are a few blunted eminences, seldom exceeding five or six in number. Their purpose is to facilitate the movements of the animal, and to enable it to penetrate with greater ease the skin. The abdominal surface is destitute of those cuticular developments which are observed on the upper; the former is also irregularly convex and concave. Extending to about a third of its length in the middle line is a long narrow plate, the representative of the sternum. As it approaches the head it bifurcates, and each branch again divides into two; of these the outer one takes part in the formation of the framework of the first pair of legs, while the other is continued along the side of the head. Two more plates are also seen originating nearly in the same line as the sternum, passing outwards and forwards to give attachment to the second pair of legs (Plate VII., figs. 11, 12). The front legs are exactly similar to each other, and a description of one will therefore suffice for the rest. The limb resembles a truncated cone attached by its base to the body, and at its distal extremity showing two or three hairs. It also displays in the latter situation a sharp curved process, and gives support to a long and cylindrical hollow tube, which terminates in a round sucker. The endo-skeleton of the leg is made up of a number of distinct pieces, to which delicate muscular fibres are attached. The first consists of a complete ring, convex in front and concave behind; the piece succeeding to

* According to M. Bourguignon, but I have not remarked them.

this is rather triangular in figure, and at its apex, where it joins the first ring, is a joint. The same process of construction is repeated in the following two or three rings, each of which undergoes a proportionate diminution in size, until the extremity of the cone is reached.

The posterior legs, four in number, are arranged in pairs, one on either side. Each arises from a single and slightly curved plate connected with the abdomen. After descending a short distance it divides into two branches, which are afterwards united by a cross piece or bar enclosing an oval space not unlike a stirrup. Proceeding downwards, three or four horizontal bars, in reality segments of circles, may be observed, separated by distinct intervals until they reach a point where two or three prominences are presented, and at this part there arises a long hair.

Male
acarus.

The above description of the acarua applies only to the female. The male is very difficult to detect, owing to its smaller size. It is distinguished by its more hexagonal shape, and by suckers on the inner pair of hind legs (fig. 10), which are mainly used in copulation. The generative organs show a distinct penis, which is surrounded above by two crescentic folds of skin.

Function of
generation.

Function of generation.—The eggs of the female insect have been variously computed from 25 to 50. Like the elements of nutrition, they occupy no proper receptacle, but are distributed throughout the body. According to Bourguignon, four eggs are laid at a time, and the process of incubation extends over three or four days. During this period the insect remains motionless in its furrow. The eggs are placed either in pairs, the outer surface of each touching the walls of the furrow, or they are dis-

posed in a single line. They are ovoid, regular, and larger at one extremity than the other; white, they present the appearance of a vesicle containing fluid. The exterior envelope is devoid of fibres, and contains in suspension a number of dark granules. No appreciable difference is perceived during the first twenty-four hours, but in the following day, and still more plainly in the third, most of the granules have disappeared, and their room become supplied by vesicles or cells, which increase in number and in volume. At the close of the fourth day a second membrane is provided, which is in direct contact with the embryo, while the first merely protects the egg, and a distinct interval is left between the two. On the fifth are already distinguished, at one extremity of the egg, two processes formed of the cells, which are the rudiments of the feet. This change rapidly proceeds in the next three days, and on the ninth the legs are completely developed. The head is now in the course of formation, and the lips and mandibles soon become distinct. On the twelfth day the insect is entire, with the exception of the second pair of hind legs, which are not fully seen until a later period.

The young acari soon make their escape from the furrow, and are very agile. They quickly move from place to place, and offer the readiest means of communicating the complaint.

The caniculi are the furrows in the cuticle produced by the female insect, and intended for the reception of the ova. They are small serpentine or wavy lines, about the eighth of an inch in length, and generally of a whitish colour. They lead to a little red or grey elevation of the skin, which must not be confounded with either vesicle or pustule, and can generally be

detected only with the aid of a good magnifying glass. The insect may generally be found by introducing the point of a pin or a needle in this elevation. Unless the case be a recent one, much difficulty is often experienced in extracting the *acarus*. It is most readily obtained in children, or from the fingers of the adult, or the wrist. Hebra speaks of the caniculi being very frequently met with at the line of junction of the sole with the inner margin of the foot. Before attempting to search for them, we should take care that the part is made perfectly clean. The male *acarus* has no furrow; he either burrows a short distance in the cuticle, or is found on the surface.

When the female intends to penetrate the skin, she raises her body almost vertically with the head downwards, and burrows at first in this direction. As soon as she reaches the deeper layers of the epidermis or the cutis her progress becomes easier, and her course is changed from perpendicular to oblique. In about twenty minutes she disappears altogether from the surface.

Acari of
the lower
animals.

The acari that infest the lower animals are not, I believe, transmissible to man. On examining a large number of the former, which have been recently added to the Hunterian Museum by M. Bourguignon, it is easy to perceive that gradations of structure are more or less evident in each. The nearest approach to the *sarcoptes hominis* is afforded by the itch insect of the llama, shown to me by Dr. Maddox; or by the same parasite of the common rat, to either of which the comparison with that of the human itch is almost identical.

Period of
incubation.

A certain period of incubation is required from the moment of contagion, before the disease is developed. This preparatory stage is uncertain in its duration. It

is said to extend usually over three or four days, but I believe that in the greater number of cases a much shorter time will be quite sufficient to produce the eruption. I have known all the characteristics of scabies to be complete within ten hours from the time of actual contagion. Warmth greatly tends to hasten the maturity of the ova, and favours also the movements of the young insects.

The symptoms of scabies differ greatly, but in all cases itching is an invariable sign. At first it is slight, and scarcely felt in the day; so that if the patient at this time refrains from scratching, the eruption will not occasion him much inconvenience. At night, and particularly when warm in bed, the itching increases; but it is not until thirty-six hours or more have elapsed, during which time the disease as a rule rapidly extends, that this symptom has reached what may be called its limit. The itching now becomes almost insupportable, and equally so is the desire to scratch, which is indulged in for its own sake. It is important to keep in mind this feature of scabies, inasmuch as it is unattended by those accompaniments of burning or pain which so often distinguish the progress of other cutaneous complaints.

A frequent locality of scabies is the hand, as the sides of the fingers, and the inner margin of the wrist. In the former situation small transparent vesicles are observed either singly or in groups, while in the latter a number of round and distinct pustules are in general perceived; or the pustular stage has passed, and scabs have succeeded, and occupy a red ground. Sometimes the eruption assumes an eminently papular character from its commencement, and the front of the forearm is covered with papules and much resembles "goose skin,"

**Papular
scabies.**

save that it is more persistent. A similar condition, but one less aggregated, occurs on the face or scalp; for when this part is attacked by scabies, in my experience it is always in the papular form. The generative organs are not seldom the seat of scabies, and the earliest sign of it on the penis is a papular eruption, with more or less redness. Again, the scapular region, or the loins, may be partially or completely covered by papular scabies, in which case there is much desquamation of the cuticle, and in such instances the axilla is generally implicated at the same time. In another and a numerous class of cases, the sole evidence of scabies is afforded by a few papules, not more perhaps than half a dozen in number, and scattered chiefly over the arms or front of the chest.

Vesicular.

The vesicular stage approaching to pustular, and sometimes not without difficulty diagnosed from eczema, may be seen on the back of the hands or the fingers, or it may be limited to the front of the elbow-joint, where the delicacy of the cuticle affords a ready passage for the insect to burrow. In like manner, the nipple of the female, a situation often overlooked, is apt to be affected by scabies; around its margin the skin is excoriated and painful, and a slight discharge proceeds from the nipple at its base. The vesicular character is sometimes more widely spread, and the vesicles are larger and no longer conical. An interesting example of this kind lately came under my care in a child at the Skin Hospital, whose forearms presented on their posterior surface a great number of distinct and hemispherical vesicles, which were mostly surrounded by a red base. In some places the vesicles had become semipurulent, and the corresponding crusts gave to the eruption an appearance

very like that of impetiginous eczema. The sides of the fingers were also affected, but no signs of the eruption could be observed elsewhere. Four of her brothers were suffering in a similar manner.

Another form of scabies is remarkable for the size and *Pustular*. thickness of its crusts or scabs, which almost rival those of ecthyma. They often appear isolated, and in most cases are seen on a wide and red patch to involve one of the larger joints, as the axilla or the groin; in the latter region the disease extends more or less along the abdomen or the thighs. Sometimes the back of the elbow presents a large and prominent crust caused by scabies. There is no spot, from the scalp to the sole of the foot, which may not be the seat of this disease. The latter situation in children, in whom the skin still retains its softness, is frequently selected by the acarus, and is very characteristic. A number of pustules, interspersed with vesicles, appear in this region or between the toes, or with further evidence of the eruption in other parts.

In this enumeration of the different signs of scabies, I have supposed, what may occur in chronic scabies, that the presence of the acarus is wanting, or at any rate that it is not discovered. Its detection supplies evidence conclusive of the complaint, which, we can well understand, will be modified by the stage of development at which the parasite has arrived, or by its sex, however impossible it is to draw the line of distinction in these instances. The result is likewise influenced by age; and children, as a general rule, suffer more severely than adults; and of the latter, those in particular who possess a tender or sensitive skin. There is much truth in the remark, that scabies is masked by

the scratching consequent on its irritation, and therefore a paralysed limb affected with the disease offers in this respect the fewest complications.

Causes.

There is but one cause capable of producing scabies, and that is direct contact with the living animal. On this point, however it may be controverted, I conceive there can be no reasonable doubt. Dirt and an absence of proper cleanliness may act as predisposing causes, inasmuch as they furnish a retreat for the insect, and so favour the growth of the ova, but they do not constitute its real origin. Many cases of scabies are seen in a class of patients far removed from the filth and wretchedness attendant on severe distress; and instances are not rare of its occasional occurrence in others of a higher rank of life, and who give every attention to personal ablution. Experiments have been made with the fluid in the vesicles, or the pustules, or the dead insect, by inserting one or other of these beneath the skin in a healthy individual, but they have uniformly failed in propagating the disease. Hardy has observed that at St. Louis the number of patients affected with scabies is considerably larger in the winter, as compared with the summer months, and explains this difference by referring the greater readiness of the eruption to be communicated from one patient to another when in bed; in Paris it is an usual practice for the poorer classes to huddle together for the sake of warmth at this season of the year. No doubt scabies is frequently caught in this way, but the sources of contagion, it should be remembered, are multiple. Indeed, my investigations with regard to the relative frequency of scabies at any particular period of the year do not accord with the opinion expressed on this point by M. Hardy. Thus, in the year

1863, the number of new cases at the Skin Hospital during the months of January and June were 33 and 35 respectively, while in March they reached 41; and in the preceding year the results were nearly the same. The total numbers during the year 1862 and 1863 amounted to 597; and an analysis of the cases as they occurred in each month throughout that period failed to show a marked excess in one month compared with another. It might have been expected, from the well-known influence of warmth in calling animal life into activity, that an increase would be exhibited in the summer, but such did not prove to be so. In the above number 597, almost every trade was included. As a class, butchers appear to be the least liable to scabies, while general dealers and leather dressers are the most so. A large percentage is contributed by drapers' assistants, policemen, and warehousemen; and in the female sex general servants and sempstresses are well represented. Hebra remarks that amongst shoemakers, those parts of the body which are exposed to friction and the warmth of the clothes, as the back of the thighs, are often the seat of scabies. However this may be, I have noticed that in blacksmiths the hands for the most part escape, even when the complaint is general elsewhere.

Scabies always admits of cure. It is not a relapsing ^{Prognosis.} complaint, or one which disappears at one period and returns at another; but it never subsides spontaneously. Of its varieties the papular is the most contagious. Sometimes scabies causes urticaria, particularly of the face, as noticed by Mr. Startin; or it furnishes the occasion of the development of another disease, as lichen, and in advanced life, of prurigo. In children that have been much neglected, it is often associated with porriga and

ecthyma; but the most frequent complication, equal to 1 in 20, is eczema. In some few instances scabies coexists with psoriasis or tinea tonsdens.

Treatment. There are several external agents that may be employed in the treatment of scabies. In the first rank stands sulphur, a remedy of long standing repute in this disease, as its effects in causing destruction of the insect are sure and speedy. The methods of employing it are many; but in any case it is desirable that the patient should remain from a quarter to half an hour in a warm bath, and freely apply the common yellow or soft soap to every portion of the skin, before using it; where the skin is hard and dirty, a preliminary bath or a wash with soap and water is essential. The compound sulphur ointment is as good a preparation as any, and with the addition of from half to a drachm of the carbonate of potash its efficiency is much increased. It should be well rubbed into the whole surface and especially where the eruption is actually present; about the larger joints, as the groin or front of the elbow, its application should be less rigorous, as these are apt to suffer afterwards from eczema. The patient on retiring to bed must be careful, that no fresh risk is likely to arise from sleeping between sheets or blankets already exposed to contagion; and the same remark applies to any clothes which he is about to wear. These should be well washed before use, and the linings of hats, caps, or bonnets renewed, if possible: in the case of cloth garments they should be subjected to sufficient heat to destroy animal life, by placing them for some minutes in an oven at a temperature of 190° F. In most instances an ordinary warm bath taken in the course of the following day will ensure a complete recovery. If any suspected

vesicles or other signs afterwards appear, the application of the above-named ointment will disperse them, or the patient may use a mercurial and spirit lotion, two grains of the bichloride and half an ounce of rectified spirit to an ounce of water. To disguise the odour of the sulphur it will be enough to add two or three drops of creosote or oil of rosemary to each ounce of ointment. Sometimes in children, as in women, if the skin be more than ordinarily sensitive, the carbonate of potash may be reduced in quantity or omitted.

Among other applications for scabies may be mentioned mercury in the form of an ointment, as from ten to fifteen grains of the white precipitate to an ounce of lard. This will accomplish a cure, but it requires for that purpose a longer period than the sulphur. The common and inexpensive oil of petroleum I have tried, and it answers in some cases exceedingly well, applied by means of a soft brush or the feather of a pen. It is most serviceable in children, as it is little likely to irritate a delicate skin. It leaves, however, permanent stains on the linen which no subsequent washing can efface.

When rapidity of relief is the object sought, there is no remedy that I know, equal to sulphur and lime, prepared in the following manner:—two parts of sublimed sulphur and one of quick lime are boiled together in ten parts of water. During the time of boiling, these ingredients should be stirred with a piece of wood, and when quite combined, the fluid should be decanted and kept for use in a stoppered bottle. The patient dips a brush made of bristles, for one of camel's hair soon becomes useless, into the fluid, and proceeds to paint the part affected as well as the surrounding skin. If the complaint be extensive, the whole or greater portion of the surface

should be treated in the same way. As the fluid dries on, it leaves the skin of a bright yellow colour, from the powder which is deposited. No interference should be permitted for at least five or six hours, when a bath may be had, which soon removes the powder, except when vesicles have formed on the apices of the papules; the latter still retain their size, are rough to the touch, and dotted at their summits with a yellow speck, which does not disappear sometimes for several days. A slight smarting pain may follow the application of the fluid, but it subsides in a few moments. Should the patient not be quite relieved after a single trial he may, as directed above, apply the same kind of mercurial lotion. This plan of treatment I have found of most utility in private. In hospital practice, and in the case of a number of children of the same family becoming affected, they are too frequently left to apply it to one another; or else the liquid is rubbed into the skin instead of being painted on the surface, a proceeding which leads oftentimes to much irritation.*

Pediculi. *Pediculi*, or *lice*, constitute another description of animal parasites that occasionally infest the human skin. They derive their nutriment from the blood or other tissues of the body, but do not burrow, like the itch insect, beneath the epidermis. They comprise three separate varieties, *pediculus pubis*, *pediculus corporis*, and *pediculus capitis*; and are readily communicable from one individual to another.

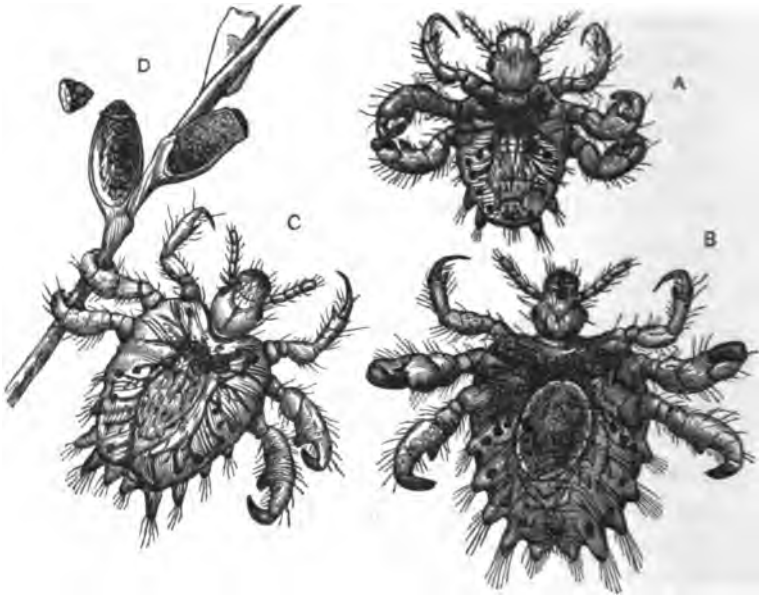
* This treatment I believe was first introduced by Dr. Nicholls, Surgeon to the Royal Wilts Militia (*Medical Mirror*, March, 1865). He recommends the preparation to be well rubbed into the body, the scalp and face excepted, for half an hour, and then washed with soap and hot water. Under this plan he says that the men of his regiment are only kept in the hospital for two or three hours.

Pediculus pubis is generally found in the hair about the generative organs, but may occur in the eyebrows, eyelashes, or whiskers. It exhibits the following symptoms:—A number of small red spots or specks, caused by the bite of the creature, may be observed around the roots of the hair and the intervals of skin between them. Interspersed among the roots of the hair is a quantity of minute red granules, the products of excrementition from the insect. The hairs, many of them, are covered with a slight viscid or glairy secretion, and are often stuck together. Lastly, the little animals are not always recognised unless in motion, owing to the transparency of their bodies; but no sooner do they begin to crawl or move their feet, than their discovery is easy. It is generally a difficult matter to remove the insect alone and without injury. If we wish to preserve one of them, the best plan is to cut off the hair with it close to the root. Unless the pediculi are speedily destroyed, the irritation occasioned by their presence soon becomes unendurable, and torments the patient night and day, but far worse at night. When in numbers, they exist likewise among the patient's clothes, which are more or less soiled in consequence.

The female is the larger of the two, and distinguished by the greater width of its body. No actual line of demarcation separates the thorax from the abdomen: to the former are attached three pairs of legs, remarkable for their strength, of which the anterior is the smallest. Each consists of three segments, the final ending in a large claw, inclined inwards and intended to grasp the hair. On either side of the abdomen, and more apparent on its ventral aspect, are four eminences, surrounded by small and pointed hairs; and on the summit of each

Anatomical
characters.

elevation is contained the aperture of a respiratory tube ; for we may trace running along the whole length of the creature, on both sides, a hollow canal, united inferiorly by a cross branch. From the inner side of the parent or larger tubes, which may be seen to extend as far as the head, are numerous small branches, which permeate the entire body. The vaginal orifice is placed near the

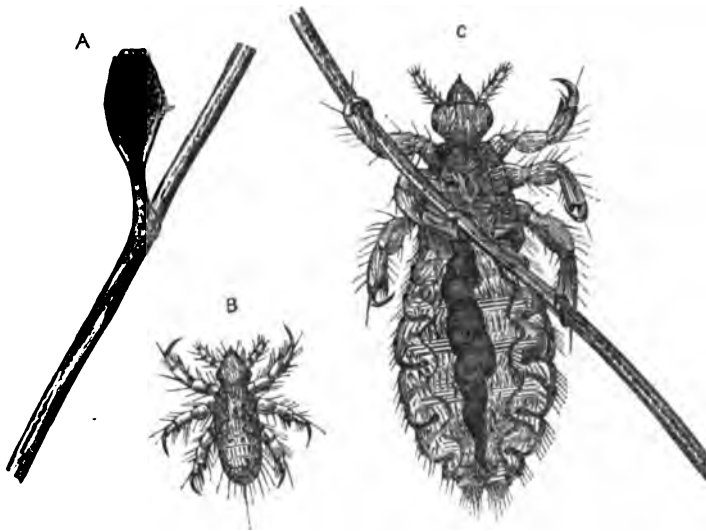


Crab lice (full grown).

- | | |
|-----------------------|----------------------------|
| A. Male. | a. Female (impregnated). |
| B. Female, with ovum. | D. Ova attached to a hair. |

last segment of the abdomen : leading into it are two oviducts, arising each from a single ovary. The head is distinct from the trunk, and furnished with two prominent eyes, immediately in front of which is a pair of antennæ. The latter are composed of four small pieces, of nearly equal size, and each at its base is provided with two short hairs. The antennæ are capable of motion in any direction.

The symptoms of *pediculus capitis* are known by the Symptoms of pediculus capitis. pediculi being scattered throughout the hair, which they traverse with great rapidity. They are in general most abundant about the crown of the head; and are easily perceived by their light colour and slender form, especially amongst dark hair. We may often detect numerous small circular and semi-transparent bodies, which are the ova, and popularly termed "nits," attached to the hair at various points. These, on examination, will be found somewhat peculiar in shape, and surrounded by a small cup at their free extremity; narrow towards the opposite end, they are attached to a pedicle or stalk. The latter is glutinous and is prolonged for a



Head lice.

A. Hair, with ovum attached.

B. Young.

C. Female (full grown).

variable distance on the hair itself, and extends to the animal's foot, with which it is connected. In fact there is little doubt, as Dr. Maddox has remarked, that the base of the claw secretes the glutinous matter, which is

regulated in quantity by the requirements of the insect. The degree of irritation that the patient experiences is for the most part determined by their abundance. If for instance their number be small, the patient may suffer little inconvenience, and their presence is then usually an accidental discovery. On the other hand, when present in large quantity, the irritation and itching they give rise to will generally attract the patient's attention to it.

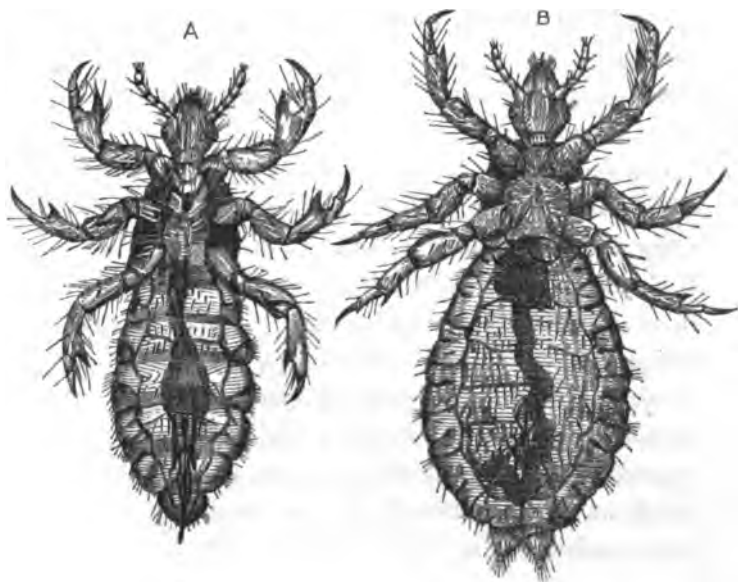
There are many diseases of the scalp which favour pediculi. In favus that has long remained neglected, lice may be frequently seen in the crevices of the crusts, which afford a convenient place for the reception and development of the ova. Sometimes in porrigo or in eczema the same thing occurs, but in any case it is the complaint of the skin which is the occasion, and not the cause of the parasite. The spontaneous generation of these creatures is a point on which there exists a difference of opinion. Great difficulty is involved in an investigation of this nature; but if it be possible for pediculi to be developed spontaneously, it would occur in long hair which has been allowed to remain uncombed and unwashed for a considerable period; for in many such cases they certainly abound.

Description
of head
louse.

The head louse has a long and narrow body, and is much quicker in its movements than the crab louse. It possesses an equal number of legs, but the anterior pair are the strongest, and each presents in addition to a terminal claw another of small size at the base, which furnishes the secretion above alluded to. The abdomen of the female shows six distinct segments on either side, and an opening in the centre of each corresponding to the stigma. Posteriorly are two angular projections of

equal size, separated above by the oval orifice of the vagina. In the male this part of the body is round, and above it is seen the penis.

The *pediculus corporis* differs chiefly in size from the Body louse. last. The head and thorax are very much the same, but the abdomen is relatively broader. In the male the lateral segments are not so prominent, and the corresponding parts in the female are constricted at the base, which is not so in the head louse. Moreover, in this



Body lice (full grown).

A. Male.

B. Female.

sex we may perceive that the abdomen ends in two small tufts, separated by a wide but not a deep interspace. In the male the penis is of considerable length, and enclosed in a kind of sheath.

The symptoms occasioned by the body louse closely resemble those resulting from the *pediculus capitis*; the folds of the garments which are worn next the skin, as

around the waist, neck, or chest, will contain a large number of the ova. The skin is rough, and in severe cases presents red elevations or pustules, many of which have become torn by the nails of the patient.

Rate of
increase.

Of the rate of multiplication of these creatures we may judge from an experiment conducted by Leuwenbach, who enclosed two females in a silk stocking, which he wore night and day. "At the end of six days, without visibly decreasing in size, each had deposited 50 eggs; at the end of 24 days the young ones had produced others in such numbers, that in the course of two months these two females might have some 18,000 of their descendants."

Cases are cited in which a patient covered with lice has been placed in a warm bath, and removed from every source of contagion, and yet in a few hours the lice have reappeared to the same extent as before. In such instances no doubt some of them were not entirely removed, and to this cause, and not to any peculiarity in the skin itself to generate them spontaneously, is their production to be explained. The reported deaths from phthiriasis alone are unworthy of belief: at the same time it is quite possible that in a patient reduced nearly to the last extremity by disease, the existence of pediculi in numbers may accelerate the final result, without being its immediate cause.

Treatment.

No treatment is more simple than that which has for its object the destruction of pediculi. When they are found in the vicinity of the pubes, we should direct the patient to sponge the affected surface several times daily with a lotion containing two grains of the bichloride of mercury to each ounce of equal parts of spirits of wine and water. At the end of twenty hours, or less, he will

be mostly rid of any further annoyance in this respect; the alcohol is not only hurtful to the insect, but destroys the vitality of the ova. Previous to the application in the first instance, the patient should wash the part thoroughly with soap and water, the latter to be quite hot; and afterwards, as in scabies, he should avoid the contact of any garments which are not thoroughly purified or clean. In the case of a patient who is not likely to obey these instructions, we may order at once the ordinary mercurial ointment to be applied. This should be well rubbed over the whole affected part and its neighbourhood. One application will be enough, and it should be allowed to remain on for two or three days before it is washed off. A lotion similar to that mentioned above will also be advantageous in pediculi affecting the head, and is also more cleanly than the ointment.

The same treatment may be adopted in the case of the body louse; but as this insect is generally more extensively developed, a remedy well known abroad in such cases is to be preferred, viz., stavesacre; one ounce of the powdered seeds are macerated for twelve hours in benzoated lard, and then strained through linen. The ointment is smeared over the surface wherever affected; and after twenty-four hours repeated if necessary. In Germany, where these "louse seeds," as they are termed, are well known, an infusion is made of them with vinegar; or they are simply boiled in water, in the proportion of one ounce to two pints. Another agent employed for a like purpose is derived from the kernels of the *cocculus indicus*, added to five times their weight of lard. To this ingredient the capuchin powder is said to owe much of its repute as an insect destroyer.

CHAPTER XIX.

URTICARIA AND ERYTHEMA.

URTICARIA is generally classed among the exanthemata. It differs however from most in being non-infectious, and from all in the development of wheals, which give it a very characteristic appearance. The latter vary much in size, being sometimes small, isolated, and not larger individually than a pea; at other times, when they have coalesced, they may equal the palm of the hand in diameter. In shape they are circular or oval, and less frequently irregular. The centre of the elevation is almost always white, and often surrounded with a slightly-red halo. Several varieties are accorded to urticaria, but the difference in each is one of degree rather than of kind.

Acute
urticaria.

Acute urticaria is ushered in with signs which can hardly be mistaken. The patient complains of headache, and of feeling giddy; an uneasy sensation is experienced about the region of the heart; the tongue remains clean, and there is little or no increase in the pulse; if the symptoms continue for two or three days, there is usually much heat of skin, and shivering, and nausea. Whatever be the part attacked, and it is commonly the front of the chest or the inner aspect of the limbs, an intolerable itching is felt; and on examination a number of wheals, as described above, may be perceived. Should the complaint be very acute, and

proceed from some indigestible article of diet being taken, vomiting and diarrhoea will probably occur, with great relief to the more urgent symptoms. When less severe, and the result of no apparent cause, the eruption, after a few hours' continuance, nearly or quite disappears. Sometimes the epidermis peels off in small flakes, but no stain is left on the skin.

Urticaria is generally a chronic affection, and liable to exacerbations, which, although periodical, are by no means regular in their invasion. When they occur, they may continue for three or four days, and afterwards not show themselves again for many months. During the period of its attack the irritation is extreme, and often much increased by the endeavours of the patient to obtain relief by scratching. Sometimes the only visible phenomenon is the evidence afforded by a red line on the skin, which is rapidly succeeded by a wheal, as when the finger nail is passed along the surface; in other cases we may observe a slight tinge of redness communicated more or less to the whole skin. It is said that in chronic urticaria no constitutional symptoms will be evinced, but to this rule there are many exceptions; and in such a case a patient who has previously suffered in the same way is quite aware of the approach of another attack; indeed, the general health frequently appears to be much improved after the complaint has, as it were, run its course.

Urticaria evanida, as its name imports, is sudden in its accession and equally so in its departure. It usually commences on the back of the hand or the forearm, of which it occupies either aspect indifferently. From thence it may spread over the greater part of the trunk or face, but mostly spares the palms of the hands and

Urticaria
evanida.

the soles of the feet. The patient experiences great tingling and heat in the part, and wheals arise exactly as when stung by a nettle. The wheals, especially if subjected to friction, increase in size, and occasion considerable irritation. After continuing for some hours the local symptoms vanish as quickly as they come, and are neither preceded nor followed by any constitutional rigour.

Urticaria
subcutanea.

Under the title of *urticaria subcutanea* is described by Willan a variety which seldom exhibits any symptom that the eye can appreciate. The patient feels a sharp or darting pain in the affected part, and mostly in the extremities. Sometimes slight and tortuous wheals may be noticed at intervals, but their disappearance produces no relief.

I have met with several examples of urticaria in children, and in infants of a few weeks old. The ordinary sign of a white blister is first perceived, which is succeeded by a red stain or patch, not raised but very distinct. The patches will sometimes linger for several days, and then they no longer disappear for the moment under pressure. Indefinite in size, although observing in most cases a circular shape, they may occur on any portion of the face, trunk, or extremities. In their origin they are extremely uncertain, and a portion of skin which to-day is apparently healthy may become in a few hours the seat of this complaint. The itching is most severe at the onset, and increases towards evening; or as the patient becomes warm in bed. At daybreak the wheals have to a great extent subsided, and the irritation is then inconsiderable.

Causes.

It is frequently impossible to assign any cause to urticaria. Sometimes it arises from the ingestion of

certain kinds of food, which however harmless to most people cannot be indulged in with impunity by others; of this class many singular cases are related. Thus Neligan records two instances in which urticaria was always produced, in less than half an hour, after eating nuts or almonds, unless the brown skin which covers them had been previously removed; and I am acquainted with a case in which the smallest quantity of the white of an egg was followed by a similar result. Various drugs, as copaiba, valerian, belladonna, or stramonium, have been known to occasion urticaria. Shell-fish, and especially mussels, when partaken of have long been supposed to produce sometimes this eruption, and so have certain fruits and vegetables, such as melons and cucumbers.

Although urticaria is not contagious, a suspicion of its becoming so may arise when we meet with it in two or more members of the same family. In such instances the disease does not spread by contagion; it is dependent upon individual idiosyncrasy, the nature of which is unknown. Some hereditary tendency is, no doubt, the main cause, and the children or the parents are distinguished by the delicacy of the skin, which is more than usually sensitive. Whether in these or other cases, urticaria is greatly favoured in its development by heat; in the summer or autumn it will sometimes continue to harass the patient for years.

When the eruption is evidently due to some derange- Treatment.
ment of the stomach, no time should be lost in administering an emetic; one that acts speedily is to be preferred, such as the sulphate of zinc. It possesses an advantage over ipecacuanha or antimony, inasmuch as it is not followed by any depressing or lowering effect. As

soon as the action of the emetic has ceased, an antacid aperient should be ordered, composed of the carbonate of magnesia and soda, to which may be added with advantage from five to ten minims of colchicum wine. The value of colchicum is advocated by Dr. MacLagan, who in his analysis of the urine in urticaria found a diminution of urea; by employing this medicine the urea returned in normal quantity. Sometimes a lotion of the bicarbonate of potash largely diluted, assists in checking the irritation. In chronic urticaria we may sometimes succeed, as in intermittent fever, in cutting short an attack at the outset by the administration of an emetic; or when it fails the acuteness of the succeeding symptoms will generally be lessened.

Erythema.

Nearly allied to urticaria is that condition of the skin which is known as *erythema*. It is characterised by a superficial redness of the surface, which diminishes or disappears momentarily under pressure. The redness is exhibited in patches, which sometimes irregular, are generally oval, and only slightly if at all raised above the surrounding level. The colour changes afterwards to violet or dark blue, and finally to yellow, as if the part had been bruised. The disease is not contagious.

Simple erythema.

Simple erythema is a term which has a wide sphere of application. As *erythema leve* or *fugax* it is often witnessed on the cheeks, which become hot and red. Some persons are particularly predisposed to it, and in them the redness is easily excited by warm or alcoholic drinks, or a heavy meal, or even by washing the face; it produces no pain, only a sense of heat and tingling, and disappears in the course of a few hours. Erythema may become permanent, and in such cases is a common accompaniment of *acne rosacea*. The same term, or *symptomatic erythema*,

is applied to the disease when it is an exponent of some intestinal or acute visceral disorder. As a consequence of tension of the skin, we observe instances of it in anasarca and in pregnancy. Again, it may occur on the forearm as large red blotches—the result of an animal poison; and those who are in the habit of handling putrid game are frequently affected in this manner. In hot weather erythema will sometimes arise from bathing in the sea. There is a variety of this complaint which is the precursor of bed sores, when the skin has been subject to constant pressure. Lastly, a similar redness of the skin may follow the track of any acrid discharge, as in purulent ophthalmia or leucorrhœa: or after the sting or bite of an insect, only that in the latter case there is more or less œdema.

Proceeding to the chief varieties of erythema, we notice, first, *erythema nodosum*, which is distinct from ^{Erythema nodosum.} any other kind. It consists in the development of smooth ovoid or hemispherical swellings, situated generally on the front of the leg, or below the elbow, with their long diameter parallel to that of the axis of the limb. Seldom do they occur above the knee, but nevertheless they may be found on the thigh or on the abdomen; in some instances they have formed on the clavicle, ribs, or inferior maxilla. This disease is usually met with in girls, or in delicate boys: sometimes it appears at a later age, especially in women in whom the catamenia are irregular. The average length of the swellings is from one to two inches; they are somewhat elastic to the touch, and slightly painful on pressure. In their progress they show the above successive and peculiar changes in colour, while at the same time they diminish in size, and assume a softer

condition, which may be mistaken for fluctuation. The constitutional symptoms vary considerably in different cases, and are seldom entirely absent. They are most marked when the eruption takes place after puberty. In the course of from ten to fifteen days erythema nodosum usually declines, but as one swelling vanishes another will sometimes appear, and thus the complaint may be prolonged for several weeks. In some instances erythema nodosum is connected with rheumatism, or its cardiac complications.

Erythema
papulatum.

Not less distinguished for its own peculiar characters is *erythema papulatum*. This is known as an eruption of circular or oval spots, which range in size each from a pin's head to a fourpenny piece, and may become as large as a shilling. They are much raised, somewhat flattened, and of a dark red colour. Usually they are quite smooth, and thickly scattered; the intervening portions of skin being sound. The spots retain for a length of time their original extent and form, and as the disease subsides they either fade gradually, or coalesce into irregular groups of a brown or bluish hue. In this stage their surface is covered with cuticular desquamation. At times there is very great itching, often preceded by a burning sensation in the spots. The eruption commences on the forearm or back of the fingers, and may remain confined to these parts. Sometimes it spreads to various regions, but I cannot recall an instance in which the upper extremity was wholly free. The patches attain the largest size when developed on the abdomen and chest.

Erythema papulatum is essentially a chronic complaint. Sometimes it lasts for months or years, disappearing entirely for many weeks and then recurring in

its former locality. It is an affection of adult life, and much more frequent in women than in men. Although its characters are in general sufficiently obvious, few cutaneous diseases are less frequently recognised than it. For example, it is apt to be mistaken for a syphilitic eruption, from which it differs in the following respects: in its relapsing nature, and the absence of other syphilitic signs; in the irritation by which it is attended; secondary syphilis is seldom irritable, while the itching in erythema papulation is at times almost insupportable; and in its situation. Erythema papulatum may, however, be syphilitic, and is in that case chiefly recognised by its departure from the usual and distinctive features of erythema. From lichen it differs in the large size of its spots; and from psoriasis guttata, which in its final stage it much resembles, by its patches being more elevated, separate, and smooth.

Erythema marginatum is rare, and like the last variety generally chronic. The patches are sometimes as large as the palm of the hand. They are few in number, and principally seen on the lower extremities. They vary greatly in colour, from a yellow to a purple or livid. What gives a separate character to this complaint is a thickened state of the subcutaneous tissue, corresponding in size to the patch, and detected on the least pressure. It is mostly associated with indifferent health, and the hardness beneath the skin remains a long time.

Erythema intertrigo is situated at the flexures of the large joints, and particularly the groin; sometimes at the elbow or the side of the neck. The skin is bright red, and smooth, and fades under pressure. Well-marked lines are also seen on the affected surface, which display a deeper and more persistent colour. The complaint is

generally witnessed in women who have a fair skin. It is provoked by friction of the clothes or excessive warmth. In fat children it often occurs on the buttocks, and unless great cleanliness be observed is apt to occasion a thin or semi-purulent secretion.

Erythema
circinnatum.

In erythema *circinnatum* the red patches form irregular segments of circles, which are in most cases of a yellowish colour, and slightly depressed at their centres. Smooth, except at their margin, they are of variable size, but seldom larger than a florin.

Diagnosis.

Whatever situation simple erythema may select, the surface is at first always smooth and red, and gradually fades at the border of the patch, changing its colour to violet, and afterwards to yellow; it is in this respect diagnosed from other diseases of the skin. When two adjacent surfaces are in contact, as in erythema intertrigo, a slight glairy secretion may exist between them, but at no period is it colourless, like the exudation of eczema. The seat of erythema nodosum and the form of the tumours to which it gives rise will seldom lead to any difficulty in its determination. The means of distinguishing erythema papulatum I have already alluded to; and with regard to erythema circinnatum, it is mainly known by its central yellow tinge.

Treatment.

The necessary treatment of erythema nodosum is generally slight. The constitutional symptoms are usually so little disturbed that little more is required than an aperient, followed if necessary by effervescing salines. Any local uneasiness will in a great degree be benefited by the patient remaining in bed or on a couch, and by elevating the feet, should the lower limbs be the seat of the attack. If the affected part be hot and uncomfortable, water dressing, cold or warm, according

to the feelings of the patient, may be applied; or in place of it, goulard or spirit lotion. When the febrile disturbance has abated, we may administer a tonic, as calumba or cinchona, with or without some preparation of iron. Quinine is very satisfactory in its results in chronic and relapsing cases.

As an acute affection erythema papulatum is in general easily managed, but becomes less so when it has lapsed into a chronic form. After any febrile symptoms have been subdued by the usual measures, much relief may be expected from the internal use of iodide of potassium. This medicine, administered in three-grain doses, with salines, often moderates the severity of an attack. Irritation is also lessened by sponging the affected surface several times in the day with a weak nitric acid lotion, or by keeping a piece of wetted lint constantly applied to the part. Sometimes nitric acid is more effectual, when the carbolate of glycerine is added to it. One ounce of the carbolate to eight ounces of water and a drachm of dilute acid is an agreeable and soothing application. At other times, and at night, a mercurial ointment lightly smeared over the spots is an excellent application.

In the treatment of local erythema, as erythema intertrigo, and also in that erythematous condition of the skin produced by warts or any acrid secretion, cleanliness is of the first importance. After washing with tepid water and a soft sponge, and taking care that the part is properly dried, we may proceed to dust the surface with powdered starch or calamine, or apply a lotion of black or red wash, on a clean rag. This should be repeated as often as is necessary, and will generally prove sufficient. In erythema due to continued pressure on a

prominent bone, as the sacrum or hip, in cases of injury or illness, our first object should be to relieve that pressure; and if the skin be unbroken, rectified spirit and camphor in equal quantities, or brandy applied on lint will harden the cuticle, and so diminish the chance of a lesion. Should this, however, have occurred, more benefit will arise from the application of a weak solution of the chloride of soda, and the use of a water bed.

CHAPTER XX.

ELEPHANTIASIS.

Elephantiasis Græcorum, or *tubercular leprosy*, or *leprosy*. Elephantiasis Græcorum.
Without entering into any argument as to the identity of this disease with that so frequently mentioned in Holy Writ, or described from the earliest dawn of profane history as existing in Egypt, there can be no doubt that if we refer to the records of the 14th and 15th centuries of our own era, we shall find abundant evidence of its ravages over the greater part of the continent of Europe, and that the inhabitants of these islands were in no way exempt from it. Happily rare among us at the present time, the complaint nevertheless prevails to a great degree, in Norway, Denmark, and Greece. In the East and West Indies, and along the shores of the Mediterranean, it is not at all uncommon. For an interesting addition to our knowledge of leprosy we are indebted to a professional visit paid by Dr. Webster to the Hospital for Lepers at Granada, founded by Isabella, and supported to this day by the Spanish Government. The results of his inquiries are embodied in a paper which was read before the Medico-Chirurgical Society in 1854, and to the facts therein contained I shall have occasion to allude.

Leprosy is much more common in the male than the female. Of 284 lepers who were reported in Spain in 1851, 188 were of the former and 96 of the latter sex; Ratio between the sexes.

and at the period of Dr. Webster's visit the ratio between the sexes was 35 to 14. The experience of Mr. Day confirms this statement as regards the greater prevalence of this affection in the male among the natives of Madras. In Bombay, at the Jamssetjee Jeejeebhoy Hospital, where all classes of natives are admitted, the proportion is still higher than the preceding. At the seat of this latter Presidency the disease is well known among the natives; it is not restricted to caste, but affects the Anglo-Indian, Portuguese, Parsee, Jew, Mussulman, and Hindoo. Although comprising two divisions, the tubercular and the anæsthetic, it must be understood that these are frequently united in the same person, and that the latter is often found to merge into the former variety of the disease.

Age of its
occurrence.

The following table shows the percentage of ages as given by Mr. Day :*—

Below 10 years	4 per cent.
From 10 years to 20 years	6 "
" 20 " 30 "	22 "
" 30 " 40 "	22 "
" 40 " 50 "	32 "
" 50 " 60 "	2 "
" 60 " 70 "	10 "
Above 70 "	2 "
<hr/>	
100	
<hr/>	

Elephantiasis is comparatively rare under puberty. Its effect in shortening life is variously stated by different authorities. Although it may show itself at any age, yet when it happens in the young subject or before nuberty, the general signs indicative of the latter are deferred beyond the usual time; the hair becomes scanty and ill-formed, and the whole frame ill-developed.

* *Madras Quarterly Journal of Medical Science*, 1860, p. 289.

Moreover, when it appears at this period of life the patient seldom survives beyond a few years.

Anæsthetic leprosy occurs in patches and is characterised by a want of sensibility in certain parts of the skin. The latter are small, circular, and serpiginous; sometimes little elevated above the surface, and in size ranging from a threepenny to a crown piece. In colour they may be almost white or reddish, and at the margin of a light brown. They are found on any portion of the trunk or the extremities; or on the face, as the forehead, cheeks, or lobes of the ears. Sometimes the patches coalesce, in which case a large extent of surface is occupied by the discolouration. It is in their centre that anæsthesia is most marked, not that this sign is confined to the patches; it may extend along the greater part of the trunk or limbs, following the course of one or more of the nerves. The diseased surface is generally dry and wrinkled, mostly destitute of hair, and devoid of moisture. Sometimes the skin of the fingers or toes is shrivelled and covered with exfoliation of the cuticle. In a few instances a pricking pain is first felt, and in some an eruption of vesicles or bullæ are among the earliest symptoms. They soon burst and form ill-conditioned ulcers, which are slow to heal, and secrete an offensive sanies. After the discharge is reduced, the ulcer, although not extending at its circumference, increases in depth, reaching to or exposing the bones. The phalanges of the fingers or toes are in this way attacked, and become attenuated in their centre. Supposing one of the hands to be affected, the patient loses power over the extensor muscles, the hand drops, and he is unable to straighten it. Although it may extend to the trunk, anæsthetic leprosy does not often com-

mence in this region. It generally proves fatal through the supervention of some exhausting disease, as dysentery or diarrhoea.

Tubercular
leprosy.

Tubercular leprosy is preceded by a variety of symptoms. Sometimes the first thing that attracts the notice of the patient is a numbing pain in the part, or there may be only cedema. More commonly irregular patches are observed, slightly elevated, and of a grey or brownish colour. On these patches are developed small tubercles, which are usually of a red hue. With their multiplication and increase on the face the countenance becomes greatly disfigured. They are often collected near the apertures of the nostrils; or on the upper lip; or on the forehead, which is thrown into large folds; or they may commence on the lobes of the ears. The occurrence of a febrile paroxysm is noticed by some authors, during which the local symptoms are aggravated. With its disappearance, and it generally lasts about three days, the patient feels little uneasiness, and sometimes the blotches disappear. This condition, however, is only temporary, as sooner or later they return. After a time other complications arise, which involve one or more of the organs of sense. The tongue or the soft palate is covered with similar tubercles, which, as they ulcerate, produce a foetid discharge. As the tongue participates, all appreciation of taste is lost, deglutition is with difficulty performed, and the voice has a harsh sound, or is scarcely audible. If the disease spreads to the vocal chords, or the trachea, the patient dies from suffocation. When the nose is implicated, fragments of diseased bone are often intermingled with the pus. Sometimes ophthalmia is induced, which is generally the forerunner to further and destructive changes taking place in the eye.

A difference of opinion exists as to the influence of leprosy on the generative organs. Most modern authors reject the testimony of antiquity on this point, and regard as fabulous the *libido inexplicabilis* recorded by older writers. Dr. Webster confirms the judgment of the latter, relying on the statement of Dr. Alveiro, who for many years filled the post of Superintendent of the Leper Hospital. Whatever may be the effect at an early stage, there is reason to believe that with the progress of the disease atrophy of the testes is far from being an infrequent result.

As to the causes of leprosy little is known that can be ^{Causes.} urged with certainty. In the fertile districts around Granada, which teem with an agricultural population, provided with the ordinary requirements of life, the complaint is rare; indeed it is mostly limited to the sea coast. The same may be said of its appearance in France, where it is chiefly seen in the southern provinces of the Empire. It is uninfluenced by occupation. Although no age is quite exempt, it is very infrequent as a primary affection under the age of seven years, nor does it often occur after the middle period of life. However free from it the pure English race may be in India, it will attack those of mixed descent in that country, and in the West Indies. I am credibly informed that it is not uncommon in the white population, who have long resided in the latter colony. In India it is chiefly confined to the poorer classes of the community, but the rich do not always escape. A diet consisting mostly of fish is supposed to be favourable to its development; the disease is nevertheless frequently met with inland, as in the Deccan and the North-West Provinces.

With respect to hereditary transmission, there is no

Hereditary
transmission.

doubt that elephantiasis is sometimes received in this way, more often than the subjects of it are able or willing to admit. Leaving their homes at an early age, many of the natives are but imperfectly acquainted with the history of their own families, and other obvious reasons forbid any positive inquiry. As in other hereditary complaints, elephantiasis will occasionally pass over one generation to reappear in the next. It is never contagious. It is not known to extend to those whose whose duty it is to wait on the sick, or who are otherwise brought into personal contact with them. A leper may continue to live with his family for years, without at all communicating the disease to any of them; nor is he considered an outcast so long as he can toil for his bread, or has the means of supporting himself. It is when his resources at length fail, and he is obliged to beg in the bazaars, maimed and mutilated, that he becomes an outcast in reality, and presents a picture of misery, to which it would be difficult to furnish a precise parallel.

Morbid
anatomy of
leprosy.

Much of the obscurity that long enveloped the morbid anatomy of leprosy has been dispelled by the valuable investigations of Dr. Carter,* who, as Surgeon to and Curator of the Museum of the Jamsetjee Jeejeebhoy Hospital, had ample opportunities of pursuing his inquiries. The conclusions he has arrived at, and which are published at full length, throw an entirely new light on this important part. It is in the altered condition of the nerves, that we must really look for the seat of mischief. To the eye the affected nerve is considerably enlarged, and changed in colour to a reddish grey. On section, its funiculi are remarkably firm, but

* *Transactions of the Medical and Physical Society of Bombay*, vol. viii., new series, p. 1.

the neurilemma is unaltered. Microscopical examination shows the nerve tubules at the seat of the enlargement to be more or less wasted and atrophied, and accompanied by fatty degeneration. The places at which these characters are seen vary with the nature of the nerve. Another result of the same disease may be mentioned in reference to the bones, as the digits, which after a time undergo remarkable changes, due to interstitial absorption and necrosis. The fingers and toes are sometimes reduced to so many stumps, and in every case the last phalanx is the first to suffer. The bones themselves become likewise lighter and thinner.

Little can be done in the way of treatment. In an Treatment. early stage, before the tubercles have ulcerated, the complaint is in some cases arrested for a time by the internal administration of mercury, given in a decoction of bark, or some other kind of tonic. The prognosis, however, in any case, is very unfavourable.

Elephantiasis Arabum, sometimes styled Cochin, or Elephantiasis Arabum. Barbadoes leg, is that species of elephantiasis which has its seat in the extremities or the genital organs. Unlike elephantiasis Græcorum, it has never been a conspicuous disease in Europe. Although its derivation would seem to imply an Arab origin, the complaint is less frequent at the present day in Arabia than in certain parts of India, as the lower provinces of Bengal, and particularly along the coast of Malabar.

Elephantiasis does not affect the extremities in the Locality. same degree. The lower limb is generally selected, the swelling commencing at the toes, or some other part of the foot, or the ankles. Extending upwards from this point it is arrested by the annular ligament, which for a time checks its further advance. The increase of the

leg nevertheless proceeds, and in many cases stops short at the knee. The swollen limb is hard and brawny to the touch and little capable of impression: it is often covered with thick cuticular exfoliations, resembling ichthyosis, and which decrease in number and size from below upwards. In this state it may remain for years, causing little pain, and inconvenient only from its bulk.

The further progress of the complaint is frequently proportioned to the fatigue that the patient has to encounter. As long as the limb is allowed to remain quiet and horizontal in position the increase is inconsiderable, but continued exertion, as standing, aggravates the local symptoms, and the pain, at first intermittent, becomes constant and unceasing. The limb is greatly enlarged, and also the superficial veins. It is hard, and of a reddish tinge. Should the disease continue to advance, the pain is increased and ulceration commences at the toes, which are successively destroyed, or large ulcers form on the other parts of the foot. Unhealthy granulations occur on the toes, thus reduced to stumps, and show little tendency to cicatrize. In some cases, when the thigh becomes involved, the varicose veins burst with marked relief for a time to the patient. The pathological changes are not always the same; sometimes, and perhaps this applies to the majority, the skin only is affected; it is simply hypertrophied. In other cases the greater part of the enlargement is due to an increase of the subcutaneous tissue, an example of which lately came under my observation. A woman beyond middle age, and imbecile, was admitted in July, 1865, into St. George's Hospital, under Mr. Pollock, with elephantiasis Arabum of both legs, but most severe in the right. The limb was amputated at the knee joint,

and the following notes I made immediately after its removal:—

The greatest width is at the instep, which measures 15 inches in circumference. The sole of the foot is scarcely changed, neither is the calf of the leg at its upper part, as it approaches the knee. The skin over the metatarsus is ulcerated to the depth of the subcutaneous tissue, and shows a finely granular and almost smooth surface; in either direction, in extent it equals $3\frac{1}{2}$ inches. In like manner destroyed is the skin of the first phalanx each of the great and fourth toes, the fifth is intact, but the second and third have entirely disappeared, only two short projections remaining, which are partially covered with granulation; the posterior margin of the ulcer is thick, tuberculated, and slightly undermined. On the inner side and front of the leg, at a distance of two inches above the internal malleolus, is another ulcer of similar size to the preceding, and bounded also by a thick and hardened border. The whole skin, from the toes upwards to the calf, is greatly hypertrophied, and unyielding to the touch. Developed on the front and back of the limb are some round tubercles, arising from the cutis itself; while more thickly grouped are masses of cuticle, which are easily separable, and on detachment leave a whitish surface exposed. The tubercles are few in number and not much larger than a pea; they are not so readily removed, and any attempt to dislodge them is attended by an oozing of blood. On cutting through the skin by a longitudinal incision from the upper part of the leg to the sole, it is hypertrophied to about twice its normal thickness, but the enlargement itself is chiefly produced by a great mass of subcutaneous tissue.

So prevalent is elephantiasis Arabum in British Cochin, that Mr. Day,* who for some time filled the office of Civil Surgeon there, records his inquiries thus:—

In 24 Indo-European families, 1 in $18\frac{1}{2}$ affected.

In 71 Native Christian „ 1 in $17\frac{1}{11}$ „

According to Mr. Waring,† the Jews (white and black) in the same locality exhibit a higher proportion,

* *Madras Quarterly Journal of Medical Science*, 1860, p. 37.

† *Waring on Elephantiasis, Indian Annals*.

being in the ratio of 1 to 14½ nearly. Besides these classes, elephantiasis attacks, and that indiscriminately, other of the native races of India, as the Mussulman and Hindoo.

In 100 cases, Mr. Day reports as follows:—

	Males.	Females.	Total.
Left forearm	3	0	3
Right lower extremity	17	10	27
Left „	11	13	24
Both extremities	18	13	31
Both lower and upper extremities	4	0	4
„ right upper extremity	1	0	1
„ left „	2	0	2
Both lower extremities and scrotum	1	0	1
Left extremity „	1	0	1
Right „ „	2	0	2
Scrotum	3	0	3
Mammæ	0	1	1
	<hr/> 63	<hr/> 37	<hr/> 100

From this table it appears that no less than 93 cases from 100 are those of elephantiasis affecting the lower extremity. A larger percentage is quoted by Mr. Waring; thus, in a collection which he made of 945 cases, 307, or 32·49 per cent., belonged to the lower extremity; 287, or 30·57 per cent., to the upper extremity; and 344, or 36·40, to both lower extremities.

Age of its occurrence. Under the age of 10 years, elephantiasis Arabum is infrequent. From the period of puberty to the age of 25 or 30 years it is generally observed. Owing to the prejudices of caste, it is difficult in India to determine anything like an exact ratio of its occurrence between the two sexes. There is little doubt that it is more common in the male than in the female, and probably the proportion of 2:1 would represent the nearest approxi-

mation. It is not a little remarkable, that while in Madras elephantiasis so much affects the lower extremity, in Calcutta it is the genital organs which are usually attacked. Sometimes the complaint undergoes a kind of metastasis, and leaves the leg altogether, only to show itself in the scrotum or other parts.

Although sudden in its attack, elephantiasis is attended by constitutional disturbance, which in some cases is severe. The patient shivers, or is cold, afterwards becomes hot, and finally is bathed in perspiration. This febrile state, which may continue for two or three days, is invariably followed by an increase in the local symptoms, with pain, or tenderness to the touch, along the course of the lymphatics of the affected part.

Elephantiasis of the genitals occurs in the penis or scrotum, or both. When originating in the former, the part becomes hot, swollen, and tender. The pain is not however limited to the scrotum, but is felt along the inner side of the thigh and at the groin. The form of the tumour is conical, having its apex above and base below. As the constitutional symptoms which usher in the complaint subside, the swelling decreases to a certain point; and with the recurrence of another attack similar symptoms return, and a corresponding accession is given to the size of the tumour, which may at length reach to the knees. Unless the swelling be great, it usually preserves its form, but the penis is concealed in its large folds. Sometimes the raphe deviates from the middle line, or cracks are seen, from the skin being suddenly and tightly stretched. Abscesses occasionally arise in different parts of the scrotum.

It sometimes happens that during the febrile paroxysm a clear discharge exudes from the skin of the scrotum.

This is always a favourable sign, and seems to be an effort of nature to throw off the disease.

Venercal
variety.

The *venercal* variety, according to Dr. Allan Webb,* mostly originates in the prepuce; or, in the female, in the nymphæ or clitoris. In the former it may attain several inches in length as well as in diameter; and, as Dr. Webb remarks, in this species the scrotum, instead of offering a smooth or plain surface, is tuberculated. In the female the labia are often more or less displaced on account of hypertrophy of the nymphæ, one or both of which may be enlarged. Warts are often present, which give rise to a foul secretion. In either sex the febrile attack which so often accompanies elephantiasis, is altogether wanting. In this description, says the above author, speaking of the distorted condition of the parts, "I have never seen such monstrosity in any instance where it was not reasonable to believe syphilis was the point of departure."

Elephantiasis is frequently connected with hydrocele; and in a case that Professor Ballingall† operated on, he found on removing the tumour that he had inadvertently opened a hernial sac. The swelling in this instance weighed forty pounds, and although the after symptoms were at first severe, the patient perfectly recovered. Sometimes mortification happens, or the skin with the subcutaneous tissue sloughs, exposing the testes. Dr. Webb attributes the more immediate causes of this complaint to bathing in cold water when the body is heated; or to sleeping on a damp ground; or to contusions. Elephantiasis of the genitals, like the same

* Dr. Allan Webb on *Elephantiasis*.

† "On the Operation for *Elephantiasis scroti*, with Cases and Remarks," *Transactions of the Bombay Medical and Physical Society*, vol. viii., p. 232, by Assistant-Surgeon G. Ballingall.

disease occurring in the lower extremities, is without doubt, largely influenced by locality.

As to the nature of elephantiasis, opinion widely differs. Many of those who, from their position in India, have had extensive opportunities of witnessing this disease, pronounce in favour of its malarious origin, and of the close connexion existing between it and intermittent fever. In support of this theory Mr. Waring, whose experience is certainly considerable, adduces 226 cases of elephantiasis Arabum, of which no less than 224 had suffered from intermittent fever. There are, I think, strong objections to this view. In the first place it may be fairly questioned whether a febrile paroxysm, which happens but once in three, four, or six months, is at all identical with intermittent fever properly so called. In my own experience of the latter malady on the banks of the Indus, where it yearly prostrated a large percentage of our troops, I never observed the least tendency to elephantiasis among them, nor yet in the resident population. Again, the febrile paroxysm differs in the following particulars from fever of an intermittent type:—headache, approaching to delirium, is the rule in elephantiasis, the exception in intermittent fever, and there is not that enlargement of the spleen or liver which is seldom wanting to the latter in its confirmed stage. The pulse in intermittent fever is quickened during the hot stage: this is not the case in elephantiasis, nor do the remedies on which we rely for a cure of the one produce a sensible effect on the other.

In an early stage, and when situated in the lower extremities, an attempt should be made to reduce the size of the limb by even pressure. For this purpose cotton bandages, or better still a flannel roller, should be

Nature of
elephantiasis.

Treatment.

applied from the toes and carried beyond the line of the swelling. Ointment containing iodine, or iodine friction will be also of assistance. In some cases the biniodide of mercury, in the proportion of one grain to four drachms of cerate, rubbed into the part has been productive of benefit, and is recommended by Mr. Day. The first effect of its application, he says, is to occasion some irritative fever, and even an increase in the size of the limb, with more or less pain; but as the latter subsides the swelling diminishes. Combined with this treatment absolute rest is essential. To improve the general health, bark may be given, but no remedy possesses a specific action on the disease. I have known it arrested by the above treatment, and in one case it seemed to lessen from the exhibition of small doses of mercury. How far any change of climate might prove of service in this country I cannot say, but a removal to a distant station in India, unless the complaint be far advanced, is generally followed by a remission of the local symptoms. The swelling may even disappear, but a relapse is almost sure to arise on the patient's return to his former abode. If this resource prove unavailing, or the complaint occur in a cold climate, the only alternative is amputation at or below the knee. The operation may be safely undertaken in so far as the disease is not likely to recur, and the patient's health warrants such a procedure. In those instances where the thigh is likewise invaded, delegation of the femoral artery offers the best chance of success. I do not remember by whom it was originally proposed, but in one case it was performed by Mr. Butcher, of Dublin. The patient recovered without a single bad symptom, and she was finally enabled to follow her occupation, which was that of a laundress. The diffi-

culty in tying the artery in such a case is greatly increased by its unusual size, as well as by the risk of wounding, on account of their engorgement, the superficial or the femoral veins.

In elephantiasis of the genitals the tumour should be removed. In the native hospitals at Calcutta and Bombay, these growths have been successfully amputated when they have weighed 100 lbs. and upwards. In one case that came under the care of Professor Ballingall, at the Jamsetjee Jeejeebhoy Hospital, July 20th, 1862, he commenced the operation by transfixing the neck of the tumour in the middle line, the knife emerging at the perineum. A strong double ligature was then passed through the opening and brought up round each side. After tightening the ligatures by tourniquets, the whole mass beyond the testicles was rapidly removed by a double-flap incision. The tumour weighed, after removal, 106½ lbs. The after-shock was very great, in consequence of reaction not being properly established for some days, and in consequence of a heavy loss of blood the following day. The after-recovery was, however, uninterrupted, and on the 4th of September the patient was discharged, cured.*

* "On the Operation for Elephantiasis scroti, with Cases and Remarks," *Transactions of the Bombay Medical and Physical Society*, vol. viii., p. 233, by Assistant-Surgeon G. Ballingall.

CHAPTER XXI.

MORBID GROWTHS OF THE SKIN.

Warts. *Warts* are generally regarded as growths due to hypertrophy of the papillæ of the skin, and covered by epidermis, which is subject to great variation in thickness. This definition applies to only such as are small and represented by a single or a group of filaments confined within a small space. In a more advanced stage, and occupying a more extensive surface, they consist of fibrous or fibro-cellular tissue. Very vascular, they bleed readily when cut. Situated on an exposed surface, they are usually dark coloured and dry, but in other parts they are soft, and often attended by a thin secretion, which, by its contact, seems to possess the power, in certain cases, of causing other warts to appear. The blood from a wart is also popularly deemed to be a common source of contagion, but actual experiment negatives this idea, or at least very rarely verifies it. Warts are objects rather of disfigurement than of pain; and are neither connected with any peculiarity of temperament, nor determined by the state of the general health. Uncertain in their origin, they may continue for years or subside spontaneously.

They are most frequent in the young of both sexes, but unless congenital, are seldom seen in infancy or advanced life. Often abundant on the hands, they may

nevertheless occur in any part. On the scalp they are as a rule remarkable for their tenuity.

Warts are occasionally consequent on syphilis, or Venereal ^{warts.} what is more common, especially in the female, they are attendant upon gonorrhœa or any foul secretion that is apt to collect about the parts of generation. They are seen on the external organs or on the mucous membrane, any portion of which is liable to be attacked. Sometimes they are confined to the verge of the anus, which may be thus completely enveloped by them. Venereal warts in the female occur for the most part in one of two forms, either as a single growth, when they are frequently of large size and more or less crescentic in shape, attached to the surface by a small base, and showing everywhere a number of excrescences resting on pedicles; or the root from which they are derived is of considerable extent, white on section, and fibro-cellular in structure. Every portion of its periphery is thickly studded with warts, which vary in size from a pin's head to a pea. Sometimes the whole track of skin from the mons veneris to the anus is covered with these growths. When seated about the genitals, warts are more than usually contagious. An offensive secretion mostly attends them; and if of large size, they are freely supplied with blood. In the male, venereal warts are often seen on the glans penis, under cover of the prepuce; favoured by the secretion which is not removed, and the moist mucous surface, they sometimes grow rapidly in this locality. When congenital phymosis exists, they have been known to perforate the prepuce and appear externally: in such a case, the growth becomes often exuberant. A crop of very minute warts will sometimes encircle the free margin of the prepuce.

Warty
tumours.

Warty tumours differ from ordinary warts in the imperfect character of the excrescences developed on the surface, giving to it a closer texture or sometimes even a convoluted appearance. Although they may attain a diameter of five or more inches, these tumours are not much raised above the skin. If cut into they present a firm and white appearance. In some cases their attachment to the skin is very broad, nearly as extensive as the tumour itself; in others, the growth resembles a mushroom, being connected by a pedicle, which it overlaps at its circumference. They may be found on the loins, head, scalp, or other parts.

An hypertrophied condition of the skin will sometimes produce a singular group of warts. These may be either so clustered together as to constitute a distinct tumour, connected by a narrow base, or they may be evolved from the general surface of this portion of the integument. The individual nodules are of larger size than those of any other variety, being equal to that of a hazel nut, or even exceeding it. They are smooth on their exposed surface, but their sides are flattened by mutual pressure. Similar warty excrescences will also occasionally be found on the female generative organs, which have become the seat of hypertrophy, as the labia, clitoris, or nymphæ. The latter may, either of them, acquire the size of an orange, and be covered with nodules. On section, such a mass is generally distinguished by its firm, close, and fibrous appearance.

There is a variety of warts, chiefly noticed by Mr. Caesar Hawkins, which spring from cicatrices.* This, in its early stage, is indicated by a tumour, having all the external characters of a wart, and which is soon suc-

* *Transactions of Medico-Chirurgical Society*, vol. xix.

ceeded by others of a like nature in its immediate vicinity. A coalescence of several of these growths takes place, producing a large and irregular mass, readily allowing the insertion of a probe in different parts of its texture, and disposed on the least provocation to bleed. In the cases that Mr. Hawkins relates, seven in number, the surface was generally ulcerated; and in one instance an ulcer formed almost from the beginning, and subsequently attained a diameter of no less than eight inches.

There is a wart (Hunterian, 2,280) in the College museum, from the surface of which a number of long, slender, and pointed processes radiate in all directions. It is invested with a layer of dark-coloured cuticle, but no history is appended.

By *warty growths* is meant a peculiar condition which is sometimes presented by the skin when the latter is converted into an irregular mass, consisting of a multitude of closely-set processes, like so much fringe, and scarcely raised above the level of the skin. Not unfrequently a patch of this kind involves several inches in extent, and is intersected by numerous deep furrows. The change is always less marked at the circumference, where the skin, although partaking of the same nature as the rest of the growth, is not elevated. In some instances the processes, formed as they are of fibrous tissue, approach the character of true warts, and are nodulated at their base. These cases are mostly congenital, and sometimes they are stated to have succeeded a *nævus*.

Warty tubercles are known by being flat and smooth on the surface. They arise from a large base, and are of a pale red or maroon colour. Generally seated on the lower extremities, they are disposed to unite and form

an irregular growth. Sometimes they are covered with a thick mealy desquamation, when they lose somewhat of their tubercular character, and become circular and less elevated. They do not appear to be venereal. A peculiar warty tubercle, to which the name of *verruca negrocanica* has been given, sometimes occurs on the hands of those who are in the habit of making *post mortem* examinations or of dissecting. It is usually seated near the base of the fore or middle fingers, or the knuckles of the others, where one or more circular tubercles are seen, irregular on their surface, and partially covered with small scales. Sometimes both hands are similarly attacked.

Degeneration.

With respect to the degeneration of warts, there is no doubt that, like many other tumours, they sometimes assume a malignant nature, but they are not so in the same sense that is ordinarily implied by cancer. They do not affect the internal organs, and most rarely the neighbouring glands; nor give rise to that cachexia, which is expressed by malignancy. Their tendency is to produce death by irritation, or loss of blood. Although a wart may continue harmless for years, a new action will sometimes be set up in it, as evidenced by an increase in its size, pain, ulceration, and hæmorrhage; and with the accession of these symptoms it may be said to degenerate. Instances of this change in the condition of a wart, and especially of that developed on a cicatrix, are not unfrequent in hospital practice, and generally the consequence of some local irritation. I know of but one recorded case of a wart that can be said to have undergone degeneration of any other kind; it occurred in a female patient of the late Mr. Bransby Cooper, from whom he removed a large mass of the labium, which

was found, on examination to contain numerous compound cysts, filled with fluid of a mucous character. The preparation, which is still to be seen in Guy's museum, shows a warty swelling, five to six inches in diameter, almost spherical in shape, very irregular on its surface, and of the usual dark colour externally. In its interior are several small cysts. The tumour is pedunculated, and considerable hæmorrhage is said to have followed its removal.*

Nothing may seem at first sight more easy to recognise *Diagnosis.* than a wart, and in the majority of cases it presents no difficulty. But this is not always so; and a "proliferous" cyst which has proceeded to ulceration may, by the protrusion of its contents, resemble very closely a wart. In the pathological museum of St. Thomas's Hospital is a preparation (47, section K), showing a proliferous cyst on the back of the hand, which has ulcerated, and might well be mistaken for a large wart. Its history states that it had existed for 30 years, having commenced in a female at the age of 17. On her admission, it presented a bleeding warty surface, and was attended by a considerable discharge. Epithelioma sometimes greatly resembles a simple wart; and if the former be situated on a plane surface, it is sometimes impossible to distinguish between them. Epithelioma may appear as a group of closely set cauliflower warts, which although prominent enough in the centre are less so at the circumference. When a section is made, the growth is found to consist at its base of white fibro-cellular tissue, covered with these slender warts, which are too densely packed to permit the passage of a probe. They are vertical in their arrangement, and

* Preparation 2,289¹⁶.

from a third to half an inch in length. An epithelial cancer may simulate a wart, which is particularly the case when the prepuce is affected.

Treatment. If found singly and of small size, the wart may be cut off with a pair of scissors, and the surface afterwards freely rubbed with nitrate of silver; or, what is better, it may be touched from time to time, at intervals of a few days, with the acid nitrate of mercury, until it finally disappears. The latter application is less painful than might be expected, and is very serviceable in that kind of wart sometimes seen on the hairy scalp, or on the side of the finger, where it forms a little tuft, more than usually irritable. If the patient object to the severity of the treatment, or if the wart have a large base, the pure liquor plumbi may be used instead. Constantly applied, this will in most instances cause the wart to shrivel and dry up. In larger warts, such as are attached to the generative organs of the female, and which, notwithstanding their size, are generally furnished with a narrow base, there is no effectual remedy but excision: the chloride of zinc should be applied afterwards to prevent their regeneration. As the operation is always a painful one, the patient should, during its continuance, be placed under the influence of chloroform. The warts, it must be remembered, have large vessels entering their base, which ramify in their interior. When excised, the bleeding from them is copious, and sometimes not easily restrained. It is therefore recommended, in case of need, to be provided with the actual cautery; or to enclose with a ligature the base of the wart, before it is removed. Should the disease recur, it should be treated as early as possible. In cases where warts form beneath the prepuce, whether the

consequence of gonorrhœa or balanitis, and phymosis results, the prepuce must be slit up. The wart now exposed may be touched with nitric acid; or an escharotic as savine powder may be applied; or this failing the wart should be excised.

Hypertrophy of the skin.—Simple hypertrophy is a ^{Hyper-}^{trophy of} rare complaint. It is sometimes seen to affect the ^{the skin.} scrotum. *Cutaneous tumours of the skin* are also uncommon, but they nevertheless may occur. An admirable specimen of this variety is one recently added to the museum of St. Bartholomew's Hospital, and shows a growth nearly hemispherical in shape, and about three inches in diameter. It had existed for two years, and was never in the least painful. It was removed from the scapula region of a negro, 28 years old, and exhibits on section a number of hair follicles, with short curly hairs growing from them.

The most usual seat of cutaneous tumours is the ^{Cutaneous}^{tumours.} extremity of the nose. Sometimes four or five of them will be seen at this part, coarsely lobulated, and deeply fissured; or the end of the nose may be surrounded by a large thick ring of integument. *Pedunculated cutaneous tumours.* The character of these is sufficiently expressed by their name. The base is for the most part circular, and in structure they are chiefly composed of white fibrous mixed with areolar tissue. Sometimes the surface is perfectly smooth, or in other cases the growth is more or less lobulated. These growths are not uncommon about the abdomen or inside of the thighs. They may occupy many years in their growth, and are unattended by pain. Sometimes ulceration takes place at the most depending part, and on the surface may be seen a group of large warts from hypertrophied papillæ.

**Fibrous
tumours.**

Fibrous tumours sometimes affect the skin. They are then generally seen in numbers, and more or less scattered over the greater part of the trunk and extremities. In size they vary from a small pea to a good-sized marble, and are sessile rather than pedunculated: the skin over them is smooth and to all appearance healthy. On section, they present the same uniform colour. On the 2nd of November, 1860, a patient was admitted into St. Mary's Hospital with a multitude of tumours of the above size studding the entire surface of his body, and which were associated with a number of subperitoneal growths. I need not remark on the latter: the cutaneous growths exactly resemble those of fibrous structure, and are precisely similar to a preparation of fibrous tumours of the skin in Guy's, from Mr. Langstaff's museum.*

**Sebaceous
tumours.**

Sebaceous tumours.—These are generally derived from the sebaceous follicles of the skin, which have become enlarged. In the ordinary form, which is most frequent on the scalp, a smooth swelling is seen, elastic, of the same colour as the skin, with the hair growing over it, moveable under the finger, and unless exposed to continued pressure unproductive of pain. On dissection, it will be found composed of a cyst, which has all the essential elements of the skin, and filled with a soft, cheesy, and sebaceous substance. If we inquire into the history, we are usually informed that the growth in question is of long duration. It may have exhibited little change for years, or else a marked increase within a recent period; when, probably on this account, the patient applies for relief. Although it may occur as a single growth, it is more frequently observed in a multiple form, whether on the scalp or other parts. In

* Preparation 1,635⁶⁰.

some instances it is congenital, and occasionally is observed to be hereditary.

Besides a sebaceous product, the contents of the cyst frequently contain an admixture of cretaceous or earthy particles, which are not without their effect upon the walls of the cyst, causing it to assume an increase in thickness, and its internal surface to become nodulated or irregular; or in addition to the original matter, we detect a number of small semitransparent horny deposits, which are in reality epithelial. Again, instead of showing a structure laminated or it may be perfectly uniform, the cavity of the cyst in other cases is wholly or in part filled with a material possessing the constituents of cuticle, recognised by its white colour, and evidently derived from the lining membrane of the cyst. A nearer approach to the skin itself may happen to one of these cysts, in the production of a quantity of hair from its inner surface, while, as in similar cutaneous cysts of the ovaries, teeth even may be found. Lastly, the cyst, and especially those of large size, may contain liquid of almost any hue, from a light to a dark brown, mingled with cholesterine or fat; and pellets of the latter as large as marbles may be immersed in the secretion.

The cyst may vary in size, shape, and structure. Sometimes not larger than a millet seed or a pea it is mostly small and membranous, as when occurring in the eyelid, immediately beneath the mucous membrane of the conjunctiva. If attached to the root of the nose or the periosteum of the orbit, it is commonly congenital, and these are the cysts in which we may expect to find a quantity of hair. On the scalp, a sebaceous tumour may attain a considerable magnitude; one, as large as a

Character
of the cyst.

cocoa-nut was removed by Sir Astley Cooper, and is in the museum of St. Thomas's Hospital.* Sometimes the cyst is quite spherical, as when surrounded by loose connective tissue, but it is generally otherwise if occupying any portion of the scalp, and flattened at its attached surface. It is not rare for a sebaceous tumour to be pedunculated, and a cyst may likewise be found in the pedicle, quite distinct from the larger growth.

The walls of the cyst vary with whatever element of its tissue preponderates. Thus in one case it may be thin and membranous, or its interior may be partially divided into distinct cavities formed by membranous septa; in another, it is composed of epithelial cells and sebaceous matter; or it may have a capsule of fibrous structure, lined by a thick wall of compressed epithelial cells; and instances are not wanting of the cyst wall becoming altogether fibrous, or containing osseous deposits.

Ulceration
of cyst.

Sometimes, and from no apparent cause, the skin covering a sebaceous tumour shows a disposition to ulcerate. It becomes thin, purple, and soft; a large portion of it may be destroyed by sloughing, and its contents escape. The exposed surface of a sebaceous cyst does not, however, granulate. The ulcer spreads at its circumference, and involves the adjoining skin; a "fungating" mass is then seen, which is sometimes mistaken for cancer, or a vascular growth attached to the interior of the cyst may protrude by ulceration through the skin, and closely resemble a warty tumour.

Diagnosis.

The comparative facility with which sebaceous tumours can be frequently distinguished must not be taken as constituting an invariable rule. As long as the contents

* Preparation 34, Section K.

remain sebaceous, and the cyst of moderate thickness, little difficulty will arise; but when the latter is of fibrous or cartilaginous hardness, the tumour loses its original character and assumes another condition; or it may resemble a "blood" tumour, whose walls are lined with a thick coating of laminated fibrin, and in which a considerable quantity of cholesterine has been occasionally detected. Sometimes, but seldom, the aperture of the duct is visible, or even a double opening may be seen. When of large size, and containing fluid, fluctuation is generally felt; or the cyst may ulcerate at one part, discharge a portion of its contents, and afterwards refill. Again, the cyst may be ruptured by a blow, and the contents escape into the cellular tissue. This adds to the difficulty of diagnosis, as the tumour often increases rapidly. An ulcerated follicle is very apt to be confounded with cancer, from which it differs in its mode of origin, viz., that it is unattended by pain; secondly, that there is no enlargement of the neighbouring glands, and the patient's health is unaffected; and thirdly, that the microscopical characters furnish epithelial cells or cholesterine, but none of those which are recognised as pertaining to cancer.

The cyst must be destroyed, *i.e.*, removed by excision, Treatment. or sufficient inflammation set upon it as to render powerless its capacity for regeneration. The skin being put on the stretch, the surgeon with a single incision divides in its whole length the integument over the cyst without wounding the latter. With a little careful dissection it can then be generally removed entire. If the knife has, however, pierced the cyst, this is immediately followed by a partial escape of its contents. With slight pressure the cyst may be now quite emptied, and the next point

to attend to is its removal. This often requires care from the nature of the surrounding attachment; and in many cases a small hook inserted into the cyst near the line of incision will facilitate the operation. When the tumour has ulcerated it will not be necessary, as in cancer, to include in its removal any considerable portion of the surrounding skin. In some cases, instead of excising the cyst, the application of nitrate of silver is employed to excite suppuration; but this is a tedious proceeding, and one scarcely less painful. For the same reason the attempted removal of the growth in any stage by caustics, as nitric acid or chloride of zinc, is far less preferable than excision, unless the patient be advanced in life and unable to bear the shock. Simple as the operation may be, it is not devoid of danger in its consequences. In a constitution damaged by excess or enfeebled by age, an attack of erysipelas spreading from the head and face to the pharynx, may prove rapidly fatal. But there is occasionally another contingency, when the tumour involves the skull; although usually it is restricted to the upper part of the frontal bone, or the orbit. This contingency occurs when the pressure of the growth has led to absorption of the bone, or even to its perforation. Early age is no safeguard against such an occurrence, and the cyst may be found no larger than a pea. At this time of life, and acting on the worst supposition, the probability is in favour of the perforation being minute, and with care no untoward result need be apprehended. At a later period, and when the tumour is of greater size, the danger is proportionately increased.

There is one more class of cases in which, from the disease being generally overlooked, death is likely to ensue.

Mr. Toynbee has placed on record several instances of sebaceous tumours situated in the external auditory meatus.* These in their progress are very prone to induce absorption of the petrous part of the temporal bone; and are all the more dangerous from the frequent absence of pain, even when this stage is reached. Among the usual symptoms may be noted deafness and otorrhœa, and the discharge is sometimes offensive; an inspection alone can determine the actual existence of the tumour.

Keloid tumours.—The first to recognise keloid growths ^{Keloid tumours.} as a separate class of tumours was Alibert, who describes them of a reddish colour, sometimes streaked with white lines, not pedunculated, but rather embedded in the substance of the skin. To the touch they are elastic, like fibro-cartilage, and moreover they are not malignant.

Their origin, I believe, is derived from the cutis itself, and not from the subcutaneous tissue, which is seldom implicated. In structure they partake, and that largely, of the fibrous element, and are highly vascular; this is shown by the number of capillaries ramifying on their surface. The cuticle is sometimes wrinkled, but more generally remarkable for being soft and smooth. There is, in the College of Surgeons, a beautifully injected preparation, which was presented by the late Mr. Edward Stanley.† It is an ordinary keloid growth of the leg, resulting from a scald, and extending several inches in the form of a tumour, narrow and not much raised. Its uniformly red surface contrasts with that of the surrounding skin; and except where it has been removed by ulceration, the epidermis is intact.

Keloid tumours present great variety of appearance. *Variety.*

* *Medico-Chirurgical Transactions*, vol. xliv., p. 51.

† Preparation 2,283 B.

The growth may be confined to a single tumour, smooth, ovoid, and hemispherical; or several of these may be seen at short distances from one another, and in various stages of development. Again, the part affected may be distinguished by irregular but not prominent projections, traversed by numerous bands, or sending out processes or claws in the direction of its growth. As the consequence of a cicatrix, the form of the tumour will correspond to the extent of the primary lesion.

Growth.

In its early stage the growth is not usually painful, but its character in this respect is often much modified by the health or temperament of the patient. Thus, should there be a tendency to hysteria in the female, or over sensitiveness or irritability in the male, more annoyance will be experienced from the presence of the tumour than where no such disposition prevails; and this is what we might expect. In many instances no inconvenience is felt, unless the part has been much manipulated, when it itches, or is said to "burn"; or unless it be constantly pressed upon, as for example when occurring on the scapula in a line with the border of the dress. Sometimes the patient complains of pain, which the least handling increases. At a later period, should ulceration take place, pain is always more or less felt, but it is not determined by the size or growth of the swelling.

Keloid tumours are not limited to any locality. Perhaps they may be said to be more common over the scapula, and next to this the sternum. Sometimes they show themselves on other parts of the trunk, or upper extremity, or face, and seldom on the lower limbs.

Proneness
to recur.

However obscure the real origin of these tumours, a singular predisposition to their production is declared in

certain constitutions, whether in the development of new growths or the recurrence of a similar swelling from the cicatrix of one that has been removed. Velpeau relates the case of a lady, from whose breast he excised a tumour of this kind, and who had undergone the operation on two occasions before she applied to him, and again it appeared for the fourth time.* It would be easy to multiply such instances as these. The same liability to return is often observed when, instead of excision, the mass has been destroyed by caustics, or removed by ligature; and so great is it in some cases that the apertures caused by the needles in closing the wound have shortly become each the seat of a keloid tubercle. In one example which Mr. Longmore lately brought before the notice of the Med. Chirurgical Society,† the whole of the back, the greater part of the chest and the face, were studded by keloid excrescences; the only evidence of an exciting cause was afforded by a "prickly heat," to which the patient, a soldier, had been exposed while serving in India. The disease was aggravated by the use of the cross-belt, and scarcely, if at all, increased in the cold weather. This man had never suffered from small-pox or secondary syphilis, and I may add that he was doing duty in the Deccan, where prickly heat is far less severe than in the plains of Hindoostan. The effect of some injury to the skin is in most cases the immediate cause of a keloid tumour. Among soldiers it not unfrequently follows flogging; in other cases it succeeds gunshot wounds, and particularly burns. The scars of small-pox or rupia, and even leech bites, have been known to become the deposit of keloid substances.

* *Velpeau on Diseases of the Female Breast*, translated by W. Marsden, M.D., 1856, page 57.

† *Remarks on two Cases of Kelis*, by T. Longmore, vol. xlv., p. 105.

Keloid of
Addison.

There is a species of keloid to which Addison has drawn attention, and which he describes as true keloid. How far it merits this distinctive title I am not about to discuss; but that the term keloid tumour cannot appropriately apply is, I think, sufficiently evident to anyone who examines the models from the originals of which the observations of Addison were derived. Commencing as a white spot, it sometimes spreads in a circular, but more commonly in a linear direction, and in many cases is attended by no elevation of the surface. The skin appears infiltrated, or, to use his own words, "hide-bound," and this so far affects the subjacent fascia and muscles as to interfere greatly with their free motion. Generally the skin is of a yellowish colour, and the patch is more or less covered with scales.

Treatment.

In the treatment of keloid tumours we should remember, that they are sometimes much affected in their growth by the state of the general health, and that they occasionally disappear. The influence of these conditions should not be overlooked or undervalued, as although the removal of the mass may be readily performed, the risk of its return is always considerable. We may endeavour to promote absorption by painting the part with tincture of iodine, diluted at first, and gradually used pure; or collodion may be employed with a similar object. In one instance related to me by Dr. Broadbent of extensive keloid growths, the latter disappeared or became much reduced from the internal use of iodide of potassium; and in a case of doubtful origin it may be worth while to try the effect of this remedy. The contra indications to an operation are these:—1st, when the disease shows an inclination to become developed in other parts—in such a case, if

excised, it is almost sure to recur; and 2nd, when it has already been so extensive as to preclude any resort to the knife. In these no treatment that I am aware of is of any avail. Rayer, indeed, recommends pressure, but this is more likely to increase than mitigate the evil that already exists.

The development of *horns* from the surface of the ^{Horns.} human body is one of those singular freaks of Nature, which she but seldom exhibits. Instances of them are met with in several of our museums, where they are regarded rather as objects of curiosity than deserving any special remark; and historical notices of their occurrence are recorded by several writers; Rayer mentions 76 cases in which Villeneuve was consulted.* One of the most remarkable specimens is to be seen in St. Thomas's museum. It measures ten inches in length, and is curled like a ram's horn; it is laminated in texture, and of a yellowish colour. Other, but much smaller horns, are also to be found in the same museum; one was formerly attached to the scrotum, and another to the pubes.

Of the 76 cases just alluded to, 37 are said to have ^{Various} occurred to women, 36 to men, and 3 to infants. In 9 of ^{modes of} ^{origin.} these cases the horns were situated on the head; in 14 on the forehead; and in 12 on the thigh. In the others they were seen five times on the nose; four on the chest, back, and ischium; three times on the temples, penis and glans; twice on the knee, ham, and foot; and once on the leg and hand.

Horns originate in various ways. 1stly. They may ^{From the} proceed from the nails. In these cases the great toe is ^{nails.} generally selected, and the horn, identical in structure

* Rayer on *Diseases of the Skin*, page 987.

with the nails, sometimes bends downwards in such a manner as to press upon the skin of the opposite side. In colour it is of a dark or dirty yellow, and its surface plane rather than convoluted. These horns in most instances appear to result from the nails not having been pared, are slow of growth, and seen usually in old people. A case is related by Mr. Partridge of an outgrowth of nails in a woman aged 84 years. The toes were perfectly healthy, but the nails of the second, third, and fourth varied from $1\frac{1}{2}$ in. to $2\frac{3}{4}$ in. in length, while the great one of the right foot measured 6 in. and the left 4 in.* 2ndly. They may originate from a sebaceous cyst, which, as is well known, may undergo various changes. The cyst enlarges, and its contents become inspissated. The latter are pushed forwards through the skin at successive intervals; and although soft when first formed, afterwards acquire a hard structure. As the cyst, if undisturbed, still continues to secrete, a proportionate length is given to the horn, and it is at first slightly moveable.

From sebaceous cysts.

There are one or two points connected with the growth of these horns that remain to be noticed. After attaining a certain size, they sometimes drop off from their own weight, or a slight blow will dislodge them. When this happens, or if they be simply cut off, they are pretty sure to sprout again. Not unfrequently they are multiple, as many as three or four or more being found on the same person. They are usually seen on the head. Such was the case which is described by Sir Astley Cooper as of cystic formation.† Speaking of this horn, it is stated to be the third in succession, and

* *Transactions of Pathological Society*, vol. viii.

† Preparation in St. Thomas's Museum, 50, Section K.

that it formed on the head of a gardener at Richmond. The first was cut off with a knife after it had existed three years; the second was broken accidentally; while the third continued to grow for seven years, until, from its excessive inconvenience and the annoyance it occasioned, Dr. Roots, under whose care the man was, removed it altogether by dissecting out the cyst with which it was connected. The horn I have carefully examined. It is convex throughout, showing numerous depressions. Becoming by degrees smaller towards its extremity, it is of the same colour on section as externally. Another horn, nearly as long, was removed by Mr. Cock, from the neck of a young woman, in 1860.* The patient was 30 years of age, and the growth had existed eleven years. Two smaller horns were also commencing, one close to it, the other near the eye. It is slightly fluted longitudinally, quite solid on section, but externally to the eighth of an inch it is of a whitish hue. 3rdly. They may proceed from papillæ. This I ^{From papillæ.} believe is of less frequent occurrence than either of the above modes of origin. The horn is more stunted than in the last variety; and, as might be expected, it is liberally supplied with blood, which is seldom the case in a horn of purely sebaceous structure. It is sometimes witnessed on the back of the hand, arm, or head; and generally affects the aged. In most cases it is found to have a well-marked elevated base, very similar to a wart, for which, in an early period of its growth, it is commonly mistaken. Seldom exceeding four or five inches in length, it tapers to a blunted end, and its surface can scarcely be said to offer any irregularity. If a thin section be examined with the microscope, its

* Preparation in Guy's Museum, 1652¹⁵.

structure will be found to consist mostly of condensed epithelium, traversed by a number of apertures for the passage of the blood-vessels, which ramify through it.

4thly. Horns are sometimes entirely composed of thickened epidermis. Such appears to be the structure of a typical horn of this nature in St. Bartholomew's museum, which formerly grew from the thigh of a young woman. It consists of thin laminae, concentrically disposed like the leaves of a flower. (Series 11, 42.) In size it is equal to half a walnut, and was removed together with a portion of subcutaneous fat.

5thly. Horns may arise from the mucous follicles of the lips. This can excite no surprise when the relation between these and the sebaceous glands of the skin is considered. Instances are related by surgical writers of horny growths about the lips becoming the seat, after their removal, of epithelial cancer.

From
epidermis.

From
mucous
follicles.

CHAPTER XXII.

REMARKS ON DISEASES OF THE SKIN FOLLOWING VACCINATION.

BEFORE proceeding to the more immediate subject of inquiry, I would observe that the influence of syphilis in the development of any cutaneous disease rests for its determination on the peculiar character of the eruption, rather than on any reliable conclusions to be obtained from the patient. It has been stated in a former page that syphilitic complaints affecting the skin always deviate more or less from the true type of the disease to which they belong; the squamous class, for instance, when arising from syphilis, being distinguished by the absence or ill-formed condition of the scales, or terminating even in suppuration—characters entirely at variance with the ordinary features of any squamous affection.

It may tend to assist our diagnosis, and it will be also of importance to remember, that there are *three* periods of life at which *congenital* syphilitic diseases are most wont to develop themselves. The first, is a few days or weeks after birth, when the complaint is generally declared by an eruption about the genital organs; or in other parts is distinguished by its abnormal seat and unusual severity: or secondly, some such change is required in the system, as takes place at the second

dentition; or thirdly, at puberty, before the effects of constitutional syphilis are indicated. The most marked example of tubercular lepra, I ever saw, occurred in a girl of 15 years of age, the second of a family of seven, and in whose history and that of her parents no trace whatever of syphilis could be established. The other children were perfectly healthy.

The agency of vaccination in the evolution of syphilis has been denied by reputed authority at home and abroad. In his able papers on Vaccination, published in 1857, and presented to both Houses of Parliament, there is no one point more strongly contested by Mr. Simon, than the transmission of syphilis by vaccination. I must confess to my failure in the perception of any such antecedent improbability in the question, as to render its impossibility conclusive; or that vaccination should stand alone in its unqualified results. The objections taken by Mr. Simon may be reduced to these—1st, that the constitutional disturbance attending vaccination may of itself give rise to eczema, when a predisposition to this disease exists. Nothing can be more true, and how often do we find the same complaint accompanying dentition, or proceeding from an apparently trivial cause. Again, Mr. Simon takes exception to the rarity of the so-called cutaneous complaints consequent upon vaccination, as affecting the validity of their existence. This line of argument is untenable. The comparative rarity is admitted. It furnishes evidence, the most direct, in favour of the general care with which vaccination is conducted, but it proves nothing more; and 3rd, the assertion that where syphilis has actually followed vaccination, is simply an assumption unsupported by fact.

The cases which I have selected occurred at the Skin

Hospital, under the care of Mr. Startin, at a time when I was his clinical assistant.

The first was that of J. W., aged 22 years, the youngest of a family of seven, who, herself excepted, have always possessed excellent health. Her father died of phthisis, mother still alive. At the age of 3 months she was vaccinated on the left arm, but the pustule never quite healed. Much inflammation followed, and the ulceration spread until it at length involved the whole arm, and showed all the characters of syphilitic lupus. The front aspect of the arm, from the shoulder to the elbow, presented a series of irregular cicatrices, with here and there a few tubercles ready at any time to ulcerate. On the face the disease commenced eight years ago, and is now represented by a patch on either cheek more than three inches in diameter. She has felt much pain at times, and before she came to the Hospital in 1862 she had been subjected to various modes of treatment. Most benefit has been obtained from the exhibition of the bichloride of mercury and the iodide of potassium, and the external application of the arsenical caustic of the Hospital Pharmacopœia.

The next is E. M., aged 15 years, the youngest but one of five, and who was vaccinated in the usual manner on the left arm only a twelvemonth ago. To the time of vaccination she was quite well and a strong healthy girl. The vaccine pustule soon became an unhealthy sore, occupied several weeks before it closed, and ended in a large irregular cicatrix. Before the latter had completely formed, psoriasis became developed on the lower extremities, even to the toes, and then proceeded to the upper and other parts of the body; the eruption resembled that of psoriasis guttata, but the scales were

badly formed. She became an out-patient on the 21st of April, 1863, and was soon relieved by remedies similar to those used in the last case, and the employment of an ointment composed of creosote and mercury.

The third case was that of M. M., 19 years of age, who, on admission, presented the following symptoms: her entire scalp was a mass of ulcers and cicatrices; the former varied in size from a sixpence to that of a penny piece, and exposed at different points the bone, much of which was in a necrosed state. Most of the ulcers were filled with a thin and very offensive discharge. Several soft tubercles might also be seen at the bridge of the nose and about the ears. She had never menstruated, and seemed much out of health; her hands were always damp, and feet cold. She was the third of six children, but, unlike the others, had always been in indifferent health from the time of her vaccination, when three months old. The vaccine pustule soon degenerated into an ill-conditioned ulcer, which did not heal for twelve or more weeks. She had also abscesses about the arm. A cicatrix remains to this day, similar to that mentioned in the last case. At the age of 14 years she was attacked with serpiginous ulceration of the scalp, until it involved the whole of its surface. She was too ill, being unable to walk beyond a few yards, to continue her attendance at the Skin Hospital, and was therefore admitted into St. George's Hospital, under Mr. Pollock's care, June 15th, 1864. Her diet was carefully attended to, and she was ordered a mercurial vapour bath three times a week, besides taking sarsaparilla with the syrup of the iodide of iron daily. At first she made an objection to the bath, deeming herself too weak to bear it, but she soon became reconciled from

the benefit she derived from its use. She gained weight, and in less than a month the head was covered with a granulating healthy surface; portions of dead bone were continuously removed by the application of a dilute sulphuric acid wash. At the end of two months more she was discharged, relieved of all severe symptoms, and comparatively well.*

I could add to the number of these cases if it were necessary, but it would involve much repetition without conferring any more practical results. The points to which I wish to refer, relate to the health of the patient before and after vaccination, and the state of the vaccine pustule.

I may remark, with respect to the notorious case at Rivolta,† which took place in May, 1861, that the given data appear to be insufficient to permit any positive conclusions to be drawn. It is stated on the authority of M. Pacchiotti, that no less than 44 infants were suffering at the time from syphilis, which they propagated in many instances to their parents. A few days before the outbreak of this disease, they had all been vaccinated from a child who was proved to be affected with syphilis. It would be of value to know the condition of the vaccine pustule in these cases; and whether the children were exposed to the same risk as the child Chiabrera, from whom the vaccine matter was in the first instance taken; and who became infected from a syphilitic nurse. It generally happens that vaccination occurs at so early an age, that no great stress can be laid upon the general health of the child previous to its performance.

* This patient, as well as the first, J. W., the author presented at a meeting of the Western Medical and Surgical Society.

† See *Medical Times and Gazette* for 1862.

Case 2 has therefore been selected, in which vaccination was delayed to much beyond the usual period; and in this case equally with the rest, the child had enjoyed uninterrupted good health to the period of vaccination.

If we turn our attention to the health of the patient after vaccination, we shall find it to have undergone a considerable or even a marked change. Case 3 may be quoted as a typical instance of this kind. The patient did not afterwards regain her health, although the specific disease did not show itself for several years after, viz., to the time of puberty.

Under the above circumstance the vaccine pustule is always materially changed. This I hold to be an essential condition of any complaint properly pertaining to vaccination. Instead of healing in the usual manner, the vaccine pustule is soon converted into a tedious and ill-conditioned sore, accompanied by more or less surrounding inflammation or abscesses in the arm. Many weeks elapse before ulceration finally ceases, and then an extensive irregular and often puckered cicatrix remains, very different from that which exists in the natural or healthy course. Sometimes the subsequent eruption is developed, as in case 1, in the immediate vicinity of the spot where vaccination has been performed, but more commonly it breaks out in other and more distant parts. There could be little doubt of its nature in this example; its specific claims rests on the abnormal situation and extent of the disease, its possessing none of the ordinary characters of lupus; and in its serpigenous boundary or margin, scarcely less significative of syphilitic origin. In case 3 there are good grounds for the belief that the complaint was due to syphilis. A difficulty may now and then

arise in the pathological determination of scrofula or syphilis affecting the bone of the skull. This patient, on her admission into St. George's Hospital, was so enfeebled that she could scarcely walk, and yet she recovered rapidly on being subjected to mercurial fumigations—a result hardly to be derived in a complaint caused solely by struma. If, then, the disease were really dependent on syphilis, it may be asked, how was that syphilis occasioned? Acquired by the patient it was not, and the closest inquiry failed to detect the least trace of syphilitic history on the side of either parent. Could the syphilis have been communicated, as in the Italian child, through the nurse? No, for the mother suckled her own offspring. It has been noted that cases will sometimes be met with where signs of unequivocal constitutional syphilis have shown themselves in a single member of a family, notwithstanding the absence of any specific history or symptom in the rest. Could not the cases already named be included in this class, or might not the syphilitic eruption be evolved by the mere act of vaccination? My answer is this. It is not unusual for a parent, whose child is the subject of a cutaneous complaint, to cast the blame upon vaccination. Such cases may be rejected if, on investigation, the vaccination has run its normal course. If the vaccine pustule be healthy it is impossible for any after-disease to be fairly laid to its charge. It can then only be viewed in the light of an exciting cause, calling into activity the materials or germ of some latent disease. On the other hand, when the vaccine pustule has assumed the state above described, and been succeeded by a train of symptoms denoting a marked derangement in the general health of the child, which, to the period of

vaccination, has been uniformly good, while the other members of the family are free from any such constitutional taint, and all moreover have been placed in precisely similar positions as regards being suckled by one and the same individual, I am then willing to accept the belief that syphilis has been transmitted through the medium of vaccination, nor do I perceive how any other explanation can be offered. There is, perhaps, nothing that has so long kept in abeyance the point at issue, or contributed to throw discredit on the idea of syphilis being received from vaccination, than its rare infrequency, and the acknowledged difficulty of maintaining the evidence unbroken, between the effects of syphilis and its real origin. Even admitting the results, as I have stated, to be occasionally dependent upon vaccination, they do not affect the more general question of its vast and undoubted utility.

INDEX.

- Alba pityriasis, mentioned by Alibert and Rayer, 45.
- Acarus (human), male, 202.
 „ female, 209.
 „ folliculorum, 20.
- Acari of the lower animals, 214.
- Acne, varieties of, 185.
 „ causes of, 186.
 „ prognosis of, 187.
 „ treatment of, 187.
 „ simplex vel punctata, 189.
 „ indurata, 190.
 „ rosacea, 190.
 „ sebacea, 191.
 „ syphilitica, 192.
- Acute sycosis, 197.
 „ impetigo, 150.
 „ pompholix, 125.
 „ urticaria, 231.
- Addison on keloid growths, 271.
- Agrius lichen, 72.
- Albicans (strophulus), 72.
- Alibert, 35, 45, 69, 168, 269.
- Alopecia areata, 175.
 „ characters of, 170.
 „ course of, 177.
 „ microscopical appearances of, 178.
- Alopecia, prognosis of, 181.
 „ treatment of, 182.
 „ cases of, 183.
 „ general, 184.
- Alphoides lepra, 43.
- Anatomy of skin, 1.
- Anæsthetic leprosy, 243.
- Annulata psoriasis, 27.
- Anselmino, analysis of the sweat, by, 14.
- Arabum elephantiasis, 247.
- Arsenic caustic, 169.
- Audouini microsporon, 180.
- Avenzoar, 209.
- Bakers' itch, 99.
- Baldness, *see* Alopecia, 175.
- Ballingall, Professor, on elephantiasis, 252, 254.
- Barbadoes leg, 247.
- Baths, Aix-la-Chapelle, 36.
 „ Harrowgate, 36.
 „ Vichy, 36.
 „ Ems, 36.
 „ St. Sauveur, 79.
 „ Louesche, 79.
 „ sulphur, 150.
- Bazin, M., 127, 122, 180.
- Beau, M., on the rate of growth of the nails, 13.
- Bennett, Hughes, on favus, 202, 206.
- Blistering, use of, in psoriasis, 34.
 „ „ in chronic eczema, 104.
- Blood vessels of the skin, 4.
- Body louse, 227.
- Bourguignon, M., 209, 210, 212.

- Brandy face, 186.
 Breast, eczema of, 109.
 " scabies of, 216.
 Breschet, M., 15.
 Bricklayers (subjects of sycosis), 200.
 Broadbent, Dr., case of keloid tumour, 272.
 Buech, composition of vernix caseosa, by, 19.
 Bullæ, 132.
 Butchers (exemption of from scabies), 219.

 Cachetic ecthyma, 153.
 Cancer, subsequent growth of, in lupus, 172.
 Caniculi of scabies, 213.
 Carbolic acid, 33.
 Carter, Dr., on leprosy, 246.
 Caseosa vernix, 18.
 " peculiar properties of, 19.
 " chemical composition of, 19.
 " analysis of, by Dr. Davy, 19.
 " analysis of, by Leman, 19.
 Causes of relapse in eczema, 104.
 Caustic (arsenical), 169.
 Chloasma, 46.
 Chronic eczema, treatment of, 104.
 Chronic sycosis, 197.
 Cicatrices of lupus, 161.
 " acne syphilitica, 192.
 " rupia, 154.
 " warty tumours of, 258.
 Circumscripta, lichen, 76.
 Circinnatum, erythema, 238.
 Circinnatus, herpes, 117.
 Classification, various systems of, v.
 Cock, Mr., case of "horn" under his care at Guy's, 275.
 Collodion, use of in lupus, 167.
 Congenital or general pityriasis, 64.
 " pityriasis and ichthyosis, 58.
 " syphilitic diseases of the skin, 277.
 Cooper, Sir Astley, case of sebaceous tumour of scalp, 265.
 Cooper, Sir Astley, case of horny growth, 274.

 Cooper, Mr. Bransby, case of warty tumour, 260.
 Copaiba, use of in psoriasis, 34.
 Cornea ichthyosis, 67.
 Corpuscles, tactile, 4.
 Coster, Mr., on the treatment of herpes circinnatus, 123.
 Couperose, 190.
 Crust, appearance of, in favus, 202.
 Curling, Mr., on the treatment of local prurigo, 91.
 Cutaneous tumours of the skin, 263.
 " " pedunculated, 263.
 Cysts of sebaceous tumours, characters of, 265.

 Dandriff, 45.
 Davy, Dr., physiological researches by, 18.
 Day, Mr., on elephantiasis, 242.
 Devergie, M., 25, 45.
 Diet in psoriasis, 36.
 " ichthyosis, 67.
 " prurigo, 90.
 " eczema, 102.
 " rupia, 156.
 " lupus, 166.
 " acne, 187.
 " sycosis, 200.
 Diffusa, psoriasis, 39.
 Diutinus pompholix, 128.
 " " of the hands, 129.

 Ears, eczema of, 110.
 " lupus of, 164.
 " pityriasis of, 45.
 " psoriasis of, 41.
 Ecthyma, *see* Rupia.
 Eczema, general characters of, 92.
 " situation of, 93.
 " varieties of, 94.
 " course of, 96.
 " causes of, 99.
 " treatment of, 100.
 " simplex, 94.
 " rubrum, 95.
 " impetiginodes, 96.

- Eczema, squamous, 96.
 " lichenous, 97.
 " erythematous, 98.
 " hereditary, 98.
 " in children, 102.
 " intertrigo, 104.
 " of the hands, 107.
 " of the genitals, 108.
 " of the breast, 109.
 " of the ears, 110.
 Elephantiasis Græcorum, 241.
 " its ratio between the
 sexes, 241.
 Elephantiasis, anæsthetic, 243.
 " tubercular, 244.
 " causes of, 245.
 " hereditary transmission
 of, 246.
 Elephantiasis, treatment of, 247.
 " Arabum, 247.
 " " locality of, 247.
 " " progress of, 248.
 " " age of its occur-
 rence, 250.
 Elephantiasis of the genitals, 251.
 " venereal, 252.
 " nature of, 253.
 Epidermis or cuticle, structure of, 1.
 " horns of, 275.
 Epilation, use of in sycosis, 200.
 " " favus, 207.
 Erythema, 234.
 " simplex, 234.
 " symptomatic, 234.
 " nodosum, 235.
 " papulatum, 236.
 " marginatum, 237.
 " circinnatum, 238.
 " diagnosis of, 238.
 " treatment of, 238.
 Erythematous eczema, 96.
 " lupus, 164.
 Escharotic rupia, 154.
 Evanida urticaria, 231.
 Exedent lupus, 160.
 Facialis, psoriasis, 40.
 Favre, 14.
 Favus, discovery of the cryptogame, by
 Schonlien, 202.
 Favus, general characters of, 202.
 " appearance of the hair of, 203.
 " " crust of, 204.
 " conditions favourable to, 205.
 " liability to relapse, 206.
 " treatment of, 207.
 Figurata, impetigo, 145.
 Fœtus, " harlequin," 61.
 Formicans, prurigo, 85.
 Funke on the tactile corpuscles, 5.
 General pityriasis, 44.
 " psoriasis, 49.
 " pompholix, 126.
 Generation, function of, in acarus sca-
 biei, 212.
 Genitals, eczema of, 108.
 " elephantiasis of, 257.
 " prurigo of, 80.
 " psoriasis of, 42.
 Gerlach, 6.
 German creosote, 33.
 Gibert, M., notice of, 35, 189.
 Glands, sebaceous, 17.
 " " situation of, 17.
 " " secretion of, 18.
 Glycerine, its introduction by Mr. Star-
 tin, 66.
 Græcorum, elephantiasis, 241.
 Granulata, impetigo, 147.
 Gras, 209.
 Growths, morbid, of skin, 256.
 Gruby, M., 202.
 Gudden, 49, 209.
 Gum-raah, 69.
 Guttata, psoriasis, 37.
 Gyrata, psoriasis, 44.
 Hair, colour of, 10.
 " structure of, 7.
 " follicle, 9.
 " chemical composition of, 11.
 " condition of, in herpes circinnatus,
 119.
 Hair, condition of, in alopecia, 178, 179.
 " " in porrigo, 138.

- Hamilton, Mr., of Dublin, plastic operations by, 171.
- Hand, eczema of, 107.
- " impetigo of, 144.
- " psoriasis of, 38.
- " pompholix of, 129.
- " scabies of, .
- Hardy, M., 4, 121, 192, 218.
- " Harlequin" fetus, 61.
- Hawkins, Mr. Caesar, on the warty tumours of cicatrices, 258.
- Heat, prickly, 73.
- Hebra, 25, 35, 80, 104, 167, 194.
- Henle on the structure of the hair follicle, 9.
- Herpes, 111.
- " phlectynodes, 111.
- " iris, 111.
- " preputialis, 112.
- " labialis, 112.
- " zoster, 113.
- " causes of, 114.
- " treatment of, 115.
- " circinnatus, 117.
- " " course of, 120.
- " " cause of, 120.
- " " diagnosis of, 122.
- " " treatment of, 122.
- Horns, various modes of origin of, 273.
- " their origin from the nails, 273.
- " " sebaceous cysts, 274.
- Horns, their origin from papillae, 275.
- " " epidermis, 275.
- " " mucous follicles, 276.
- Huile de cade, use of in psoriasis, eczema, 34, 104.
- Hulke, Mr., case of ichthyosis of the tongue, 62.
- Hura brasiliensis, employment of, in psoriasis, 35.
- Hutchinson, Mr., 181.
- Huxley, Mr., 6.
- Ichthyosis, 56.
- " and congenital pityriasis, 58.
- " partial, 62.
- Ichthyosis cornea, 67.
- " of the tongue, 62.
- " characters of, 58.
- " analysis of urine in, 64.
- " prognosis of, 65.
- " treatment of, 66.
- Identity of herpes circinnatus and tinea tonsens, 117.
- Ignis sacer, 113.
- Impetigo, 143.
- " situation of, 143.
- " diagnosis of, 147.
- " prognosis of, 149.
- " treatment of, 149.
- " sparsa, 144.
- " figurata, 145.
- " syphilitic, 146.
- " granulata, 147.
- " of the lips, 145.
- " of the nails, 145.
- Impetiginous eczema, 95.
- " lupus, 162.
- Influence of the weather in producing eczema, 106.
- Intertrigo, eczema, 109.
- " erythema, 237.
- Iodine, use of, in herpes circinnatus, 123.
- Itch, see Scabies.
- Kali soap, use of, in psoriasis, 35.
- Keloid tumours, recognition of, by Alibert, 269.
- Keloid tumours, structure of, 269.
- " growth of, 270.
- " locality of, 270.
- " recurrence of, 271.
- " Addison on, 271.
- " treatment of, 272.
- Kölliker, 3, 6, 15, 20.
- Krause on the number of the sweat glands, 14.
- Larvalis porrigo, 136.
- Leman on the composition of sebaceous matter, 19.
- Lepra alphoides, 43.
- " circumscripta, 43.
- Leve erythema, 234.

- Lichen, varieties of, 69.
 " course of, 69.
 " causes of, 70.
 " diagnosis of, 71.
 " treatment of, 77.
 " agrius, 72.
 " tropicus, 73.
 " urticatus, 74.
 " pilaris, 76.
 " lividus, 76.
 " circumscriptus, 76.
 " syphilitic, 77.
 " baths, use of, in, 79.
 " scrofulosus, 79.
 " ruber, 80.
 Lichenous eczema, 97.
 Lips, psoriasis of, 41.
 " pityriasis of, 46.
 " herpes of, 112.
 " impetigo of, 145.
 " lupus of, 164.
 Lister, Mr., researches on the muscles of the skin, 3.
 Longmore, Mr., on keloid, 271.
 Loss of tissue in the lips from lupus, 172.
 " " repair of, 171.
 Louse seeds, use of, in Germany, 229.
 Lupus, general characters of, 157.
 " tubercular, 158.
 " strumous, 159.
 " exedent, 160.
 " syphilitic, 161.
 " impetiginous, 162.
 " with hypertrophy, 163.
 " erythematous, 164.
 " causes of, 165.
 " treatment of, 166-174.
 " plastic operations for, 171.
 " growth of cancer on, 172.
 MacLagan, Dr., on the urine in urticaria, 234.
 Maddox, Dr., 214, 225.
 Malstem, his discovery of the fungus in *tinea tonsdens*, 117.
 Marcet, Dr., 2, 57, 65.
 Marginata, psoriasis, 39.
 Marginatum, erythema, 237.
 Mentagra, *see* Sycosis.
 Microscopical appearances of the fungus in pityriasis versicolor, 48.
 Microscopical appearances of the fungus in herpes circinnatus, 119.
 Microscopical appearances of the fungus in sycosis, 194.
 Microscopical appearances of the fungus in favus, 204.
 Morbid growths of the skin, 256.
 Mucous membrane of the lips, impetigo of, 145.
 Mucous membrane of the lips, lupus of, 164.
 Nails, structure of, 4.
 " microscopical appearance of, 11.
 " blood vessels beneath, 12.
 " rate of growth of, 13.
 " favus of, 205.
 " eczema of, 108.
 " psoriasis of, 41.
 " impetigo of, 145.
 Natural system of classification, vi.
 Neligan, notice of, 24, 67, 189, 208.
 Nettle rash, *see* Urticaria.
 Nicholls, Dr., *see* note, 222.
 Nigricans, psoriasis, 39.
 " pityriasis, 50.
 Nodosum, erythema, 235.
 Nose, lupus of, 160.
 Oil of petroleum, its use in scabies, 221.
 Ova of pediculi, 225.
 " scabies, 212.
 Oxide of zinc, use of, in eczema, 103.
 Papillæ of the skin, 4.
 Papular diseases of the skin, 69.
 " scabies, 216.
 Papulatum, erythema, 236.
 Pereira on the exhibition of arsenic in lepra, 31.
 Partial ichthyosis, 62.
 Partridge, Mr. case of growth of nail, 274.
 Pediculi, 222.
 " pubis, 223.

- Raah, nettle, *see* Urticaria, 142.
 Rayer, 175, 185, 273.
 Relapse, causes of, in eczema, 105.
 Rheumatism and psoriasis, 25.
 Ringworm, *see* Herpes.
 Robin on Favus, 202.
 Rosacea acne, 191.
 Ruber lichen, 80.
 Rubra pityriasis, 50.
 Rupia, simple, 152.
 " cachectic or syphilitic, 153.
 " escharotic, 154.
 " causes of, 155.
 " diagnosis of, 155.
 " treatment of, 156.
 Sarcoptes hominis, 210.
 Scabies, function of generation in, 212.
 " papular, 216.
 " vesicular, 216.
 " pustular, 217.
 " symptoms and diagnosis of, 215.
 " causes of, 218.
 " treatment of, 220.
 Scales, chemical composition of the, in ichthyosis, 57.
 Scalp, eczema of, 93.
 " pityriasis of, 45.
 " lepra of, 43.
 " scabies of, 216.
 Scarr, Mr., case of "harlequin" foetus, 61.
 Schonlien, discoverer of fungus in favus, 202.
 Schottier, analysis of perspiration, 14.
 Scrofulous lichen, 79.
 Scrotum, psoriasis of, 41.
 " prurigo of, 86.
 " eczema of, 108.
 Scutulata porrigo, 137.
 Sebaceous acne, 191.
 " glands, 17.
 " situation of glands, 17.
 " secretion, 18.
 " tumours, 264.
 " cysts, nature of, 265.
 " diagnosis of, 200.
 " treatment of, 267.
 Senilis prurigo, 85.
 Sequin, 15.
 Simon, 125.
 Simplex prurigo, 84.
 " acne, 189.
 " porrigo, 137.
 " rupia, 152.
 " eczema, 94.
 Skin, anatomy of, 1.
 " nerves of, 4.
 " blood vessels of, 4.
 " muscles of, 3.
 " hypertrophy of, 263.
 " cutaneous tumour of, 263.
 " pedunculated cutaneous tumour of, 263.
 Skin, fibrous tumours of, 264.
 " sebaceous tumours of, 265.
 " keloid tumours of, 269.
 Solitary pompholix, 130.
 Sparsa impetigo, 144.
 Spontaneous disappearance of psoriasis, 35.
 Squamous eczema, 96.
 St. Anthony's fire, 113.
 Startin, Mr., 38, 46, 53, 116, 136, 219.
 Stavesacre ointment, use of, in pediculi, 229.
 Strophulus, 72.
 " albicans, 72.
 " intertinctus, 72.
 " treatment of, 77.
 Strumous porrigo, 141.
 " lupus, 159.
 Subcutanea urticaria, 232.
 Sudoriferous or sweat glands, 13.
 Sycosis, 193.
 " fungus of, 194.
 " situation of, 195.
 " symptoms of, 196.
 " diagnosis of, 148.
 " treatment of, 199.
 Syphilitic psoriasis, 28.
 " impetigo, 146.
 " pompholix, 130.
 " lupus, 161.
 " acne, 192.
 " sycosis, 198.

- Syphilitic rupia, 153.
Symptomatic erythema, 235.
- Tannic acid, its use in eczema, 104.
Toes, eczema of the, 94.
Tongue, fissures of, 29.
 " psoriasis of, 42.
 " ichthyosis of, 62.
Toynbee, Mr., on sebaceous tumours of the ear, 268.
Tropicus lichen, 73.
Tubercular psoriasis, 28.
 " impetigo, 146.
 " lupus, 158.
 " leprosy, 241.
- Ulcers following eczema, treatment of, 106.
Unguentum picis liquidæ, use of, 104.
Urea, determination of, in ichthyosis, 64.
Urine, condition of, in psoriasis, 32.
 " " in ichthyosis, 62.
 " " in eczema, 102.
 " " in urticaria, 234.
Urticaria, 230.
 " acute, 230.
 " chronic, 231.
 " evanida, 231.
 " subcutanea, 232.
 " in children, 232.
 " causes of, 232.
- Urticaria, treatment of, 233.
Urticatus lichen, 74.
- Vaccination, diseases of the skin following, 278.
Villeneuve, 273.
- Warehousemen, liability of, to scabies, 219.
Waring, Mr., on elephantiasis, 250, 253.
Warts, 256.
 " venereal, 257.
 " degeneration of, 260.
 " diagnosis of, 261.
 " treatment of, 262.
Warty tumours, 258.
 " " of cicatrices, 258.
Warty growths, 259.
 " tubercles, 259.
Water fomentation recommended by Hebra in eczema, 105.
Webb, Dr. Allan, on elephantiasis, 252.
Weyrick on the conditions of perspiration, 16.
Wilson, Mr. Erasmus, vi., 20, 50, 109.
- Zinc, oxyde of, use of, 103.
Zoster, herpes, 113.

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A CLASSIFIED INDEX TO MESSRS. CHURCHILL & SONS' CATALOGUE.

ANATOMY.

Anatomical Remembrancer	7
Flower on Nerves	16
Hassall's Micros. Anatomy	19
Heale's Anatomy of the Lungs	19
Heath's Practical Anatomy	20
Holden's Human Osteology	20
Do. on Dissections	20
Huxley's Comparative Anatomy	21
Jones' and Sleveking's Patho- logical Anatomy	22
MacLise's Surgical Anatomy	25
St. Bartholomew's Hospital Catalogue	31
Sibson's Medical Anatomy	32
Waters' Anatomy of Lung	37
Wheeler's Anatomy for Artists	38
Wilson's Anatomy	39

CHEMISTRY.

Bernays' Notes for Students	9
Bowman's Practical Chemistry	10
Do. Medical do.	10
Fownes' Manual of Chemistry	16
Do. Actonian Prize	16
Do. Qualitative Analysis	16
Freeseus' Chemical Analysis	16
Galloway's First Step	17
Do. Second Step	17
Do. Analysis	17
Do. Tables	17
Griffiths' Four Seasons	18
Horley's Chem. Philosophy	21
Mulder on the Chemistry of Wine	27
Plattner & Muspratt on Blowpipe	28
Speer's Pathol. Chemistry	33
Sutton's Volumetric Analysis	34

CLIMATE.

Aspinall on San Remo	7
Bennet's Winter in the South of Europe	9
Chambers on Italy	12
Dalrymple on Egypt	14
Francis on Change of Climate	16
Hall on Torquay	19
Haviland on Climate	19
Lee on Climate	24
Do. Watering Places of England	24
McClelland on Bengal	25
McNicoll on Southampton	25
Martin on Tropical Climates	26
Moore's Diseases of India	27
Scoreby-Jackson's Climatology	31
Shapter on South Devon	32
Siordet on Montone	32
Taylor on Pan and Pyrenees	34

DEFORMITIES, &c.

Adams on Spinal Curvature	6
Bigg's Orthopraxy	10
Bishop on Deformities	10
Do. Articulate Sounds	10
Brodhurst on Spine	11
Do. on Clubfoot	11
Godfrey on Spine	17
Hugman on Hip Joint	21
Salt on Lower Extremities	31
Tampin on Spine	34

DISEASES OF WOMEN AND CHILDREN.

Ballard on Infants and Mothers	7
Bennet on Uterus	9
Bird on Children	10
Bryant's Surg. Diseases of Child.	11
Eyre's Practical Remarks	15
Harrison on Children	19
Hood on Scarlet Fever, &c.	21
Kiwiach (ed. by Clay) on Ovaries	13
Lee's Ovarian & Uterine Diseases	24
Do. on Speculum	24
Ritchie on Ovaries	30
Seymour on Ovaria	32
Tilt on Uterine Inflammation	35
Do. Uterine Therapeutics	35
Do. on Change of Life	35
Underwood on Children	36
Wells on the Ovaries	39
West on Women	38
Do. (Uvedale) on Puerp. Diseases	38

GENERATIVE ORGANS, Diseases of, and SYPHILIS.

Acton on Reproductive Organs	6
Coote on Syphilis	14
Gant on Bladder	17
Hutchinson on Inherited Syphilis	22
Judd on Syphilis	23
Lee on Syphilis	24
Parker on Syphilis	27
Wilson on Syphilis	39

HYGIENE.

Armstrong on Naval Hygiene	7
Beale's Laws of Health	8
Do. Health and Disease	8

HYGIENE—continued.

Bennet on Nutrition	9
Carter on Training	12
Chavasse's Advice to a Mother	13
Do. Advice to a Wife	13
Dobell's Germs and Vestiges of Disease	15
Do. Diet and Regimen	15
Fife & Urquhart on Turkish Bath	16
Gordon on Army Hygiene	17
Granville on Vichy	18
Hartwig on Sea Bathing	19
Do. Physical Education	19
Hufeland's Art of prolonging Life	31
Lee's Baths of France, Germany, and Switzerland	24
Moore's Health in Tropics	27
Parkes on Hygiene	27
Parkin on Disease	28
Pearse's Notes on Health	23
Pickford on Hygiene	28
Robertson on Diet	30
Routh on Infant Feeding	30
Wells' Seamen's Medicine Chest	38
Wife's Domain	38
Wilson on Healthy Skin	39
Do. on Mineral Waters	39
Do. on Turkish Bath	39

MATERIA MEDICA and PHARMACY.

Bateman's Magnacopia	8
Beasley's Formulary	9
Do. Receipt Book	9
Do. Book of Prescriptions	9
Fraser's Materia Medica	16
Nevins' Analysis of Pharmacop.	27
Pereira's Selecta & Prescriptis	28
Pharmacopoeia Londinensis	28
Prescriber's Pharmacopoeia	29
Royle's Materia Medica	31
Squire's Hospital Pharmacopoeias	33
Do. Companion to the Phar- macopoeia	33
Steggall's First Lines for Che- mists and Druggists	24
Stowe's Toxicological Chart	34
Taylor on Poisons	35
Waring's Therapeutics	37
Wittstein's Pharmacy	39

MEDICINE.

Adams on Rheumatic Gout	6
Addison on Cell Therapeutics	6
Do. on Healthy and Dis- eased Structure	6

MEDICINE—continued.

Aldie's Hospital Practice ..	6
Anderson (Andrew) on Fever ..	7
Do. (Thos.) on Yellow Fever ..	7
Austin on Paralysis ..	7
Barclay on Medical Diagnosis ..	8
Do. on Gout ..	8
Barlow's Practice of Medicine ..	8
Bascham on Dropsy ..	8
Brinton on Stomach ..	11
Do. on Ulcer of do. ..	11
Budd on the Liver ..	11
Do. on Stomach ..	11
Camplin on Diabetes ..	12
Chambers on Digestion ..	12
Do. Lectures ..	12
Cockle on Cancer ..	12
Davy's Ganglionic Nervous Sys. ..	12
Eyre on Stomach ..	12
Failler on Rheumatism ..	12
Gairdner on Gout ..	12
Gibb on Throat ..	12
Granville on Sudden Death ..	12
Griffith on the Skin ..	12
Gully's Simple Treatment ..	12
Habershon on the Abdomen ..	12
Do. on Mercury ..	12
Hall (Marshall) on Apnoea ..	12
Do. Observations ..	12
Headland—Action of Medicines ..	19
Hooper's Physician's Vade-Mecum ..	18
Inman's New Theory ..	22
Do. Myalgia ..	22
James on Laryngoscope ..	22
MacLachlan on Advanced Life ..	25
MacLeod on Acoholic Diseases ..	25
Marcet on Chronic Alcoholism ..	25
Macpherson on Cholera ..	25
Markham on Bleeding ..	25
Meryon on Paralysis ..	25
Musket on Apoplexy ..	27
Nicholson on Yellow Fever ..	27
Parkin on Cholera ..	28
Pavy on Diabetes ..	28
Peet's Principles and Practice of Medicine ..	28
Roberts on Palsy ..	30
Robertson on Gout ..	30
Sansom on Cholera ..	31
Savory's Compendium ..	31
Semple on Cough ..	32
Seymour on Dropsy ..	32
Shaw's Remembrancer ..	32
Smee on Debility ..	32
Thomas' Practice of Physic ..	35
Thudichum on Gall Stones ..	35
Todd's Clinical Lectures ..	36
Tweedie on Continued Fevers ..	36
Walker on Diphtheria ..	37
What to Observe at the Bedside ..	35
Williams' Principles ..	38
Wright on Headaches ..	39

MICROSCOPE.

Beale on Microscope in Medicine ..	8
Carpenter on Microscope ..	12
Schacht on do. ..	31

MISCELLANEOUS.

Acton on Prostitution ..	6
Barclay's Medical Errors ..	8
Barker & Edwards' Photographs ..	8

MISCELLANEOUS—cont.

Bascome on Epidemics ..	8
Blaine's Veterinary Art ..	10
Bourguignon on the Castle Plague ..	10
Bryce on Sebastopol ..	11
Buckle's Hospital Statistics ..	11
Cooley's Cyclopaedia ..	13
Gordon on China ..	17
Graves' Physiology and Medicine ..	17
Guy's Hospital Reports ..	17
Harrison on Lead in Water ..	19
Hingeston's Topics of the Day ..	20
Hove on Epidemics ..	21
Lane's Hydropathy ..	22
Lee on Homoeop. and Hydrop. ..	24
London Hospital Reports ..	26
Marcet on Food ..	26
Massy on Recruits ..	26
Mayne's Medical Vocabulary ..	26
Part's Case Book ..	28
Redwood's Supplement to Pharmacopoeia ..	30
Ryan on Infanticide ..	31
St. George's Hospital Reports ..	31
Stmm's Winter in Paris ..	32
Snow on Chloroform ..	33
Steggall's Medical Manual ..	24
Do. Gregory's Conspectus ..	24
Do. Celsus ..	24
Waring's Tropical Resident at Home ..	37
Whitehead on Transmission ..	38

NERVOUS DISORDERS AND INDIGESTION.

Althaus on Epilepsy, Hysteria ..	7
Birch on Constipation ..	10
Carter on Hysteria ..	12
Downing on Neuralgia ..	15
Hunt on Heartburn ..	21
Jones (Handfield) on Functional Nervous Disorders ..	22
Leared on Imperfect Digestion ..	22
Lobb on Nervous Affections ..	24
Radcliffe on Epilepsy ..	29
Reynolds on the Brain ..	30
Do. on Epilepsy ..	30
Rowe on Nervous Diseases ..	31
Slevaking on Epilepsy ..	32
Turnbull on Stomach ..	36

OBSTETRICS.

Barnes on Placenta Praevia ..	8
Hodges on Puerperal Convulsions ..	20
Lee's Clinical Midwifery ..	24
Do. Consultations ..	24
Letshman's Mechanism of Parturition ..	24
Pretty's Aids during Labour ..	29
Priestley on Gravid Uterus ..	29
Ramsbotham's Obstetrics ..	29
Do. Midwifery ..	30
Sinclair & Johnston's Midwifery ..	32
Smellie's Obstetric Plates ..	32
Smith's Manual of Obstetrics ..	33
Swayne's Aphorisms ..	34
Waller's Midwifery ..	37

OPHTHALMOLOGY.

Cooper on Injuries of Eye ..	12
Do. on Near Sight ..	12
Dalrymple on Eye ..	14

OPHTHALMOLOGY—cont.

Dixon on the Eye ..	15
Hogg on Ophthalmoscope ..	20
Hulke on the Ophthalmoscope ..	21
Jago on Entropion ..	22
Jones' Ophthalmic Medicine ..	23
Do. Defects of Sight ..	23
Do. Eye and Ear ..	23
Macnamara on the Eye ..	25
Nunneley on the Organs of Vision ..	27
Solomon on Glaucoma ..	28
Walton on the Eye ..	27
Wells on Spectacles ..	27

PHYSIOLOGY.

Carpenter's Human ..	12
Do. Manual ..	12
Heale on Vital Canes ..	19
Richardson on Congulation ..	20
Shea's Animal Physiology ..	22
Virchow's (ed. by Chance) Cellular Pathology ..	12

PSYCHOLOGY.

Artidge on the State of Lunacy ..	7
Bucknill and Tuke's Psychological Medicine ..	12
Conolly on Asylums ..	13
Davey on Nature of Insanity ..	13
Dunn's Physiological Psychology ..	14
Hood on Criminal Lunatics ..	21
Millington on Treatment of Insane ..	26
Murray on Emotional Diseases ..	27
Noble on Mind ..	27
Sankey on Mental Diseases ..	31
Williams (J. H.) Unsoundness of Mind ..	33

PULMONARY AND CHEST DISEASES, &c.

Allison on Pulmonary Consumption ..	6
Barker on the Lungs ..	8
Billing on Lungs and Heart ..	10
Bright on the Chest ..	11
Cotton on Consumption ..	14
Do. on Stethoscope ..	14
Davies on Lungs and Heart ..	15
Dobell on the Chest ..	15
Do. on Tuberculosis ..	15
Do. on Winter Cough ..	15
Fenwick on Consumption ..	16
Fuller on Chest ..	17
Do. on Heart ..	17
Jones (Jas.) on Consumption ..	22
Laennec on Auscultation ..	23
Markham on Heart ..	26
Peacock on the Heart ..	28
Richardson on Consumption ..	30
Salter on Asthma ..	31
Skoda on Auscultation ..	35
Thompson on Consumption ..	35
Timms on Consumption ..	35
Turnbull on Consumption ..	36
Waters on Emphysema ..	37
Weber on Auscultation ..	37

CLASSIFIED INDEX.

V

RENAL and URINARY

DISEASES.

	PAGE
Acton on Urinary Organs ..	6
Beale on Urine ..	8
Bird's Urinary Deposits ..	10
Coulson on Bladder ..	14
Hassall on Urine ..	19
Parkes on Urine ..	27
Thudichum on Urine ..	35
Todd on Urinary Organs ..	36

SCIENCE.

Baxter on Organic Polarity ..	8
Bentley's Manual of Botany ..	9
Bird's Natural Philosophy ..	10
Craig on Electric Tension ..	14
Hardwich's Photography ..	19
Hinds' Harmonies ..	30
Howard on the Clouds ..	21
Jones on Vision ..	22
Do. on Body, Sense, and Mind ..	23
Mayne's Lexicon ..	36
Noad on the Inductorium ..	27
Pratt's Genealogy of Creation ..	29
Do. Eccentric & Centric Force ..	29
Do. on Orbital Motion ..	29
Do. Astronomical Investigations ..	29
Do. Oracles of God ..	29
Price's Photographic Manipulation ..	29
Raney on Shells ..	29
Reymond's Animal Electricity ..	30

SCIENCE—continued.

Taylor's Medical Jurisprudence ..	34
Unger's Botanical Letters ..	35
Vestiges of Creation ..	35

SURGERY.

Adams on Reparation of Tendons ..	6
Do. Subcutaneous Surgery ..	6
Anderson on the Skin ..	7
Ashton on Rectum ..	7
Brodhurst on Anchylosis ..	11
Bryant on Diseases of Joints ..	11
Callender on Rupture ..	12
Chapman on Ulcers ..	12
Do. Varicose Veins ..	12
Clark's Outlines of Surgery ..	13
Collis on Cancer ..	13
Cooper (Sir A.) on Testis ..	14
Do. (S.) Surg. Dictionary ..	14
Coulson on Lithotomy ..	14
Curling on Rectum ..	14
Do. on Testis ..	14
Druitt's Surgeon's Vade-Mecum ..	15
Fayrer's Clinical Surgery ..	16
Fergusson's Surgery ..	16
Gamgee's Amputation at Hip-Joint ..	17
Gant's Principles of Surgery ..	17
Heath's Minor Surgery and Bandaging ..	20
Higginbottom on Nitrate of Silver ..	20
Hodgson on Prostate ..	20
Holt on Stricture ..	21
James on Hernia ..	23

SURGERY—continued.

Jordan's Clinical Surgery ..	22
Lawrence's Surgery ..	22
Do. Ruptures ..	22
Lee on the Rectum, &c. ..	24
Liston's Surgery ..	24
Logan on Skin Diseases ..	24
Macleod's Surgical Diagnosis ..	25
Do. Surgery of the Crises ..	25
MacLise on Fractures ..	25
Mannder's Operative Surgery ..	26
Nunneley on Erysipelas ..	27
Pirrie's Surgery ..	28
Price on Excision of Knee-Joint ..	29
Salt on Rupture ..	31
Sansom on Chloroform ..	31
Smith (Hy.) on Stricture ..	33
Do. on Hemorrhoids ..	33
Do. on the Surgery of the Rectum ..	33
Do. (Dr. J.) Dental Anatomy and Surgery ..	33
Steggall's Surgical Manual ..	34
Teale on Amputation ..	35
Thompson on Stricture ..	35
Do. on Prostate ..	35
Do. Lithotomy and Lithotrixy ..	35
Tomes' Dental Surgery ..	36
Toynbee on Ear ..	36
Wade on Stricture ..	36
Webb's Surgeon's Ready Rules ..	37
Williamson on Military Surgery ..	38
Do. on Gunshot Injuries ..	38
Wilson on Skin Diseases ..	39
Do. Portraits of Skin Diseases ..	39
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Do. on Throat ..	39

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